

**GREAT EMPIRES
OF THE PAST**

EMPIRE OF
**ANCIENT
EGYPT**

Revised Edition

WENDY CHRISTENSEN



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GREAT EMPIRES OF THE PAST

EMPIRE OF ANCIENT EGYPT

REVISED EDITION



GREAT EMPIRES OF THE PAST

Empire of Alexander the Great

Empire of Ancient Egypt

Empire of Ancient Greece

Empire of Ancient Rome

Empire of the Aztecs

Empire of the Incas

Empire of the Islamic World

Empire of the Mongols

Empires of Ancient Mesopotamia

Empires of Ancient Persia

Empires of Medieval West Africa

Empires of the Maya



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REVISED EDITION

WENDY CHRISTENSEN

JOSEF WEGNER, HISTORICAL CONSULTANT



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Great Empires of the Past: Empire of Ancient Egypt

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INTRODUCTION

EGYPT, THE WORLD'S FIRST SUPERPOWER, BEGAN ABOUT 5000 B.C.E. in the valley of the Nile River in northeastern Africa. Egypt was tucked into a long, narrow gorge (a narrow valley between mountains or cliffs), with the Nile snaking its way through the bottom. It enjoyed a predictable, mostly pleasant climate.

The Nile and its surrounding desert also offered natural barriers against invasion. To the west lay the Sahara Desert, to the east a harsh, mountainous wasteland. Both of these would be very difficult for an invading army to cross. To the south, a series of six great rapids was impossible to sail past. (Rapids are areas in a river where natural conditions make the water run very fast over rocky, dangerous spots. The Nile rapids are known as cataracts—which are really waterfalls.) To the north was the “Great Green,” the Mediterranean Sea.

An Egyptian called his homeland Kemet. His world was divided into two parts. Lowland *kemet* (meaning “black land”) was the narrow ribbon of rich, black earth on the floor of the valley. Highland *deshret* (meaning “red land”) was the pale, reddish sand of the desert plateaus (areas of high, flat land). Foreigners were called “highlanders.” “Going up” meant leaving the valley; “descending” (going down) meant returning home.

Egypt was a long, narrow oasis (a place in the desert where there is water) carved by the Nile River through the harsh desert. “The Egypt to which we sail nowadays is . . . the gift of the river,” said Greek historian and traveler Herodotus (ca. 480–ca. 425 B.C.E.).

The Nile, one of the world's longest rivers, flows more than 4,200 miles north from central Africa to the Mediterranean. The word “Nile”

OPPOSITE

This gold mask of King Tutankhamun (popularly known as King Tut), taken from his inner coffin, toured museums throughout the world in the early 1980s and sparked interest yet again in the culture of ancient Egypt.



CONNECTIONS

What Are Connections?

Throughout this book, and all the books in the Great Empires of the Past series, there are Connections boxes. They point out ideas, inventions, art, food, customs, and more from this empire that are still part of the world today. Nations and cultures in remote history can seem far away from the present day, but these connections demonstrate how our everyday lives have been shaped by the peoples of the past.

comes from the Greek word *Neilos*, the name of a Greek river god. But the Egyptians called it simply *iteru*, “the river.”

THE TWO LANDS

In the desert, nothing can live without water. So in Egypt all life came from the Nile. As a result, geography was everything in ancient Egypt. The narrow valley through which the

Nile ran and the wider delta (a piece of land at the mouth of a river shaped like a triangle that is made by deposits of mud and sand) where it flowed into the Mediterranean were known as the “two lands” of ancient Egypt.

Upper Egypt, *Ta-Shomu* (meaning “narrow land”), was a long, narrow, limestone gorge, 10 to 30 miles wide. It stretched from the first cataract at Aswan to the edge of the Nile Delta, 500 miles to the north. On either side of this valley, cliffs rose from a few hundred feet to almost 1,000 feet high. In ancient times, Upper Egypt’s floodplain (the area that flooded when the river overflowed) totaled 42,500 square miles. The only suitable farmland was in this floodplain. So the area the Egyptians could farm was just over one and a half miles wide at Aswan. At its widest point, on the west bank of the river opposite modern Tell el-Amarna, the floodplain was about 13 miles wide.

About 100 miles south of the Mediterranean, the Nile split into two large streams and many smaller ones, called tributaries. These formed the fan-shaped Nile Delta. This second part was an 8,500-square-mile region of marshy land called Lower Egypt, or *Ta-Mehu* (meaning “water-filled land”).

The ancient Nile had at least five, and as many as 16, tributaries that ran into the sea. (The modern Nile has only two, Rosetta and Damietta.) About 50 miles southwest of the point where the Nile began to branch into many tributaries lay an area called the Faiyum. This area was connected underground to the Nile. The ancient Faiyum was a wetlands paradise, thick with lotus and papyrus plants and many types of birds and animals. Birket Qaran, a lake in the northern Faiyum, was a favorite hunting spot.

The Nile (then and now) blends two major streams. The White Nile rises from the clear waters of Lakes Victoria, Albert, and Edward

in central Africa. As it flows north, it gathers water from over 1,500 miles of tributaries. The Blue Nile rises in Lake Tana, in the highlands of Abyssinia (modern Ethiopia). It flows more than 1,000 miles before joining the White Nile. The two streams join at Khartoum, capital of the modern Republic of the Sudan, and flow another 1,900 miles to the sea. About 140 miles north of Khartoum, the Atbara River, rising from the Ethiopian highlands, joins the Nile.

Near Khartoum, the Nile enters a region of hard sandstone. As it runs through this difficult land, there are six lengths—the cataracts—where it has been unable to carve a clear path. Huge stones, rapids, and small but very dangerous waterfalls block navigation. The first cataract is the northern one, which is closest to Egypt. Once past the first cataract, near the modern city of Aswan, the riverbed changes from hard sandstone to softer limestone. This made it much easier for the Nile to carve a relatively straight path. After passing the island of Elephantine, the Nile offers a 675-mile, clear passage to the delta and the Mediterranean Sea.

THE INUNDATION

Each year, spring rains and melting snows in the Ethiopian highlands poured into the Blue Nile. This water carried huge quantities of volcanic silt (fine particles of earth) and decaying vegetation. These “green waters” were filled with minerals and organic material. They flowed down the Nile and started to reach Egypt by June.

A month later, a wave of muddy water, enriched with silt and red earth, poured into the Nile from the Blue Nile and the Atbara. It washed over the valley floor, depositing millions of tons of mineral-laden silt, potash (a mix of minerals), and organic materials.

The waters continued rising until mid-September, then gradually receded (went back to their original level in the river). In October, the waters rose again briefly, then receded until spring. By the end of May, the Nile was at its lowest level of the year, and the land was dry and cracked.

This annual flood—called the inundation—was treasured and feared. It brought life and fertility. Egypt’s civilization would have been impossible without it. But it could also bring trouble—from temporary inconvenience to major disaster.

When the inundation arrived on time and was neither too high nor too low, planting and harvesting went smoothly. If the inundation arrived earlier or later than usual, the Egyptians might not be able to grow enough food.

The Nile as Compass

Upper Egypt lies south of Lower Egypt. That seems upside down. But it made perfect sense to the Egyptians because the Nile River flows south to north. The Egyptian word for north meant “downstream.” Their word for south meant “upstream.” Most rivers flow north to south, but to Egyptians this seemed strange. Egyptian travelers were confused when foreign rivers did not behave “correctly.” One Egyptian, puzzled by the Euphrates River in Mesopotamia (modern Iraq), called it “the inverted (upside-down) water which goes downstream in going upstream.”

IN THEIR OWN WORDS

Hymn to the Nile

The Egyptians understood the importance of the Nile to their lives and worshipped it as a god. This hymn of praise, dating from around 2100 B.C.E., was probably sung at festivals to ensure a favorable inundation—neither too high nor too low.

Hail to thee, O Nile! Who manifests thyself over this land, and comes to give life to Egypt! Mysterious is thy issuing forth from the darkness, on this day whereon it is celebrated! Watering the orchards created by Re, to cause all the cattle to live, you give the earth to drink, inexhaustible one! Path that descends from the sky, loving the bread of Seb and the first-fruits of Nepera, You cause the workshops of Ptah to prosper! . . .

He spreads himself over Egypt, filling the granaries, renewing the marts, watching over the goods of the unhappy. . . .

All is changed by the inundation; it is a healing-balm for all mankind.

This hymn mentions many other Egyptian gods, including Re, Seb, Nepera, and Ptah. A balm is an ointment used to soothe or heal.

(Source: Thatcher, Oliver J., editor, *The Library of Original Sources*, Vol. I: The Ancient World. Milwaukee: University Research Extension Co., 1907.)

A low Nile or a high Nile could also spell disaster. With a low Nile, the floodwaters did not reach some of the farmlands. These lands could not be planted because there was no way to get enough water to them. A single low Nile year caused some problems, but grain the Egyptians had stored away usually came to the rescue. Several low Niles in a row could bring widespread famine (a dangerous shortage of food).

In a high Nile, floodwaters swept away homes, villages, farm animals, dams, and canals. Thousands of people drowned or were left homeless.

The Egyptians worshipped the inundation as Hapi, a chubby god with a papyrus plant growing from his head. They held festivals to honor Hapi at the site of modern Gebel el-Silsila, near Elephantine, where they believed the inundation began. They also sang a hymn to Hapi: “When he appears, the land jubilates [shows joy], everybody

rejoices.” Modern Egyptians honor this tradition by throwing flowers into the river each summer during Awru el-Nil, a national holiday that celebrates the inundation.

THE EVIDENCE OF HISTORY

Ancient Egypt was one of the longest-lasting civilizations the world has ever known. It spanned more than 3,000 years from about 3100

B.C.E. to 30 B.C.E. It left an enormous amount of material for Egyptologists to study: tombs, temples, monuments, paintings, sculptures, papyrus scrolls, coffins, mummies, pottery, household goods, jewelry, clothing, toys, and more. (Egyptologists are people who study the language, history, and civilization of ancient Egypt.) The materials that still exist today are only a tiny, random fraction of what Egypt produced.

The first historian to take an interest in Egypt was Greek traveler and writer Herodotus. He visited Egypt around 450 B.C.E. In Book 2 of his *Histories*, he wrote about places, people, and practices he saw himself. He also recorded legends and tall tales. Scholars disagree about Herodotus's reliability on many matters, especially history.

Egyptologists have found several partial lists of kings, recorded at various times during Egypt's long history. Most of these are incomplete, inaccurate, or both. Kings sometimes deliberately left out or erased the names of previous rulers. Sometimes they changed inscriptions to make it seem that they had accomplished things done by previous kings. For this reason, we cannot be really sure about who ruled when and what each king accomplished.

The king list that is considered the most complete (although it has many mistakes) was written in Greek by the Egyptian high priest and scribe Manetho. His list extends from 3100 B.C.E. (when Upper and Lower Egypt were united) to 332 B.C.E. (when Egypt was conquered by Alexander the Great). Manetho divides the kings into 31 dynasties (ruling families that keeps control over many generations). This was the first time the rulers had been listed in this standardized way.

Manetho lived during the Ptolemaic Period. That means he was writing about 2,700 years after the earliest Egyptian dynasty. By contrast, today we live about 2,000 after the last Egyptian dynasty. So Manetho was writing about really ancient history, even to him.

Neither Manetho's *Aegyptiaca* nor the original sources he used to write them have survived. Short passages from his work, including his list of kings, were later quoted by the Roman historians Africanus, Josephus, and Eusebius. This preserved them for later historians to study.

Modern Egyptologists recognize 34 dynasties. This includes the 31 listed by Manetho, two additional dynasties for the Macedonian and

Egyptian Dates

It is very difficult to establish accurate dates for Egyptian history. The Egyptians did not keep a timetable of years and events. Some dates can be checked against records of other ancient peoples, or against known events in astronomy records. But all dates before 664 B.C.E. are estimates.

Early dates were recorded based on the years of a king's reign (such as "year five of Djet") or some major or unusual event (such as "the second year after Djet's first expedition to Nubia"). Sometimes, dates were given based on when the national cattle census was taken—a major event that happened every two years ("the year after Pepy's sixth counting of the oxen"). When a new king took the throne, the year was reset to one.

During the Middle Kingdom and later, dates were given only relative to each king's reign ("the 12th year of Tuthmosis"). Often, several kings had the same name, and this makes understanding Egyptian dates even more complicated.

There is still much controversy among Egyptologists about dates. As new information has come to light, Egyptologists have revised Egyptian dates several times. In the New Kingdom, dates from different sources can vary by as much as 20 years. For the Old and Middle Kingdoms, dates might differ as much as 50 years more or less.

The dates in this book are from "Three Kingdoms and 34 Dynasties" by Dr. William J. Murnane, in David Silverman's book *Ancient Egypt*.

Ptolemaic kings, and what they call Dynasty 0, to account for a few very early kings. Egyptian kings are often called *pharaohs*, but that term was not used for the king until quite late in Egyptian history.

Because Egyptian history is so long, Egyptologists group the dynasties into periods, based on political, social, economic, and other factors they had in common. These divisions are modern inventions. The ancient Egyptians did not divide their history in this way.

A WHIRLWIND TOUR OF EGYPTIAN HISTORY

The 1,850 years of Egypt's history before Upper and Lower Egypt were united is called the Predynastic era (5000–3150 B.C.E.). These were busy times of intense cultural and agricultural development,

population growth, widespread settlement, and the adoption of the Egyptian writing system, called hieroglyphs. Egypt's population was about 1 million by the time King Narmer united the two lands in 3100 B.C.E.

During the 375 years of the Early Dynastic Period (3000–2625 B.C.E.), Upper and Lower Egypt were united under strong central rule. In Dynasties 0 to 3, the capital city of Memphis was founded and Egypt's huge government systems and departments rapidly developed.

The Old Kingdom (2625–2130 B.C.E.) was the age of the great pyramids. In statues of themselves, Old Kingdom rulers have a calm, god-like peacefulness. They knew they were going to enjoy eternal life. They probably did not care much about the everyday matters of the world or the troubles of ordinary people. They are shown speaking directly to the gods and thinking important thoughts. They did not hesitate to use all of Egypt's resources to build grand tombs for themselves.

By the end of the Old Kingdom, Egypt's population had grown to 2 million. Most were extremely poor peasants (farmers). There was general unhappiness with increasingly expensive royal building projects. Powerful, wealthy local rulers started ignoring the king. Egypt was divided up into independent provinces.

Climate changes in the First Intermediate Period (2130–1800 B.C.E.) brought a series of low Niles. This caused crop failures and widespread famine. For 150 years, Egypt suffered chaos (complete disorder and confusion) and civil war.

The Middle Kingdom (1800–1630 B.C.E.) was a glorious era of political and economic reform when Egyptian culture was restored. In statues of themselves, Middle Kingdom rulers have the worried expressions of men facing many real-world problems. They were wealthy and powerful. But they were also hard workers, running a huge, complex government. They saw what chaos and civil war could do to their country. They did not want a repeat.

For 350 years, Egypt enjoyed peace, prosperity, increased trade, and great practical achievements. The population grew to about 2.5 million. For the first time, Egypt had a middle class.

The Second Intermediate Period (1630–1539 B.C.E.) brought Egypt's worst nightmare: rule by foreigners. Another period of climate change brought crop failure, famine, and civil disorder. The Hyksos (the name means "rulers of foreign lands"), foreigners of Semitic origin, took



CONNECTIONS

Popular Obelisks

Obelisks are four-sided tall, slim pillars covered with hieroglyphics that come to a point at the top. They are usually carved from a single block of stone. They were created by the Egyptians to symbolize contact between humans on earth and the gods in the heavens. A pair of obelisks often stood at the entrance to temples, particularly those dedicated to the sun god, Ra. Their purpose was to declare the king's power and success.

These obelisks captured the imagination of foreign conquerors throughout history. Many can now be found in different parts of the world. Two great obelisks, which stood in Egypt for 2,500 years, were brought to Rome by Julius Caesar (d. 44 B.C.E.). These became known as Cleopatra's Needles. In 1878 one was taken to London and placed on the banks of the Thames River. New York City received the other one, and placed it in Central Park in 1881.

Several obelisks were brought to ancient Rome in imperial times, and others were made by the Romans, who imitated Egyptian hieroglyphics. They were put up outside temples or tombs or along the center line of arenas built for chariot racing (a chariot is a two-wheeled cart pulled by horses). When the Roman Empire came to an end, one by one the obelisks fell and were buried. It was not until the 13th century that a renewed interest for antiquities caused them to be unearthed.

Possibly the best known obelisk in Egypt is at the Temple of Luxor in Thebes. It was



This Egyptian obelisk, made from pink granite, once marked the entrance to the Amon temple at Luxor. Now it stands in the Place de la Concorde in Paris, France. It is more than 3,300 years old and is decorated with hieroglyphics. The Obelisk of Luxor was given to the French in 1829 by the viceroy (colonial ruler) of Egypt, Mehmet Ali. The Eiffel Tower (which is actually 10 times higher than this obelisk) can be seen in the background.

put up by Ramses II. This obelisk was originally one of a pair. Each was 72 feet tall and made of 254 tons of solid red granite. In 1836, Napoleon removed one and it now stands in the Place de la Concorde in Paris.

One modern obelisk that may be familiar is the Washington Monument in the United States capital. It was built to honor the first president of the United States, George Washington (1732–1799). The 555-foot obelisk is the tallest building in Washington, D.C.

advantage of the chaos. They grabbed the throne of Egypt and held it for more than 100 years.

The Hyksos brought much-needed fresh ideas to Egypt. But the Egyptians hated them because they were foreigners. After a long, difficult power struggle, a group of princes from the city of Thebes drove the Hyksos from Egypt.

The New Kingdom (1539–1075 B.C.E.) was Egypt's imperial age. At its largest, Egypt's empire stretched from the fourth cataract of the Nile, which was deep in Nubia, all the way to the Euphrates River in Asia. Egypt was powerful and wealthy beyond compare—the world's first superpower.

The imperial pharaohs of the New Kingdom have proud, confident faces. They owned the world. They thought extremely highly of Egypt, and even more highly of themselves. No boast was too grand, no monument too large, no conquest too challenging for these mighty pharaohs. Egypt was now home to about 3 million people. For more than 450 years, it was on top of the world. Gold, gifts, treasure taken in war, and tribute (riches paid to a foreign ruler) flowed into Egypt like the Nile floods. But winds of change were blowing.

During the 419 years of the Third Intermediate Period (1075–664 B.C.E.) Egypt's power weakened. Eventually the empire came to an end. By around 1000 B.C.E., Egypt was just about bankrupt. The country broke up into many small kingdoms and estates. They were constantly at war with one another. The chaos enabled Egypt's former colony, Nubia, to grab the throne. The Nubians remained in charge for more than 100 years.

During Egypt's Late Period (664–332 B.C.E.) outside influences and invaders—Assyrians, Babylonians, Persians, and Macedonian Greeks—dominated Egypt. A dynasty of merchant-kings, the Saites, fell to the Persian Cambyses in 525 B.C.E.

The First Persian Occupation (525–405 B.C.E.) was an unhappy time. Egypt did not like being part of someone else's empire. The Egyptians rebelled and won back their independence for 66 years. Nakhthoreb (also known as Nectanebo II), the last king of the Thirtieth Dynasty, who ruled from 362 to 343 B.C.E., was the last native Egyptian to rule Egypt until 1952—2,300 years later.

The Second Persian Occupation (343–332 B.C.E.) was brief and troubled. Egypt longed for a savior. In 332 B.C.E., Alexander the Great

On November 4, 1922, British Egyptologist Howard Carter (1873–1939) uncovered a flight of steps leading down into the tomb of a minor Eighteenth Dynasty king, Tutankhamun. Carter removed a few stones from the door that sealed the tomb and peered into the chamber. “Can you see anything?” asked the Earl of Carnarvon (1866–1923), the expedition’s financial backer. “Yes,” Carter replied, “wonderful things” (quoted in *The Tomb of Tutankhamen* by Howard Carter).

(356–323 B.C.E.) drove the hated Persians from Egypt, beginning the Hellenistic (Greek) Period (332–323 B.C.E.). The Egyptians considered Alexander a god—the son of their god Amun-Re. He founded the city of Alexandria, and made Egypt part of the larger world of the Mediterranean. But as Egypt became part of a group of nations, its ancient, native civilization was swiftly passing away.

The Ptolemaic Period (323–30 B.C.E.) saw the end of ancient Egypt. The Ptolemies ruled from Alexandria. They were greatly influenced by the Greeks, and Greek and Egyptian culture began to blend. In 30 B.C.E., Queen Cleopatra VII committed suicide rather than face defeat by the Romans, and Egypt became a province of the Roman Empire.

WHY LEARN ABOUT ANCIENT EGYPT?

Ancient Egypt did not leave what scholars call a successor community. That is an identifiable group of people who carry on some or all of the practices, beliefs, traditions, and customs of an earlier people



or culture. To be a true successor community to a culture or civilization, the new culture must keep some beliefs and traditions that were central to the original culture and that can still be identified today.

But once Egypt became part of the Roman Empire, her religion gradually vanished. Hieroglyphic writing was abandoned, and the secret of how to read it was lost for thousands of years. Her spoken language changed, and eventually became a language known as Coptic. Her artistic styles were not adopted by other cultures. Her imperial age lasted only a few hundred years and left little mark on a rapidly changing world. Of all Egypt's achievements, only the 365-day calendar remained, because it was adopted by the Romans.

For thousands of years, ancient Egypt lay buried in sand and mystery. But she was only sleeping. In 1798, French general Napoléon Bonaparte (1769–1821) shook her awake when he made an expedition to Egypt. Napoléon brought scientists, historians, artists, and scholars to explore and make a record of the ancient monuments and ruins. In 1802, the first edition (of more than 40) of *Travels in Upper and Lower Egypt* by French artist Vivant Denon (1747–1825) caused a huge sensation in Europe.

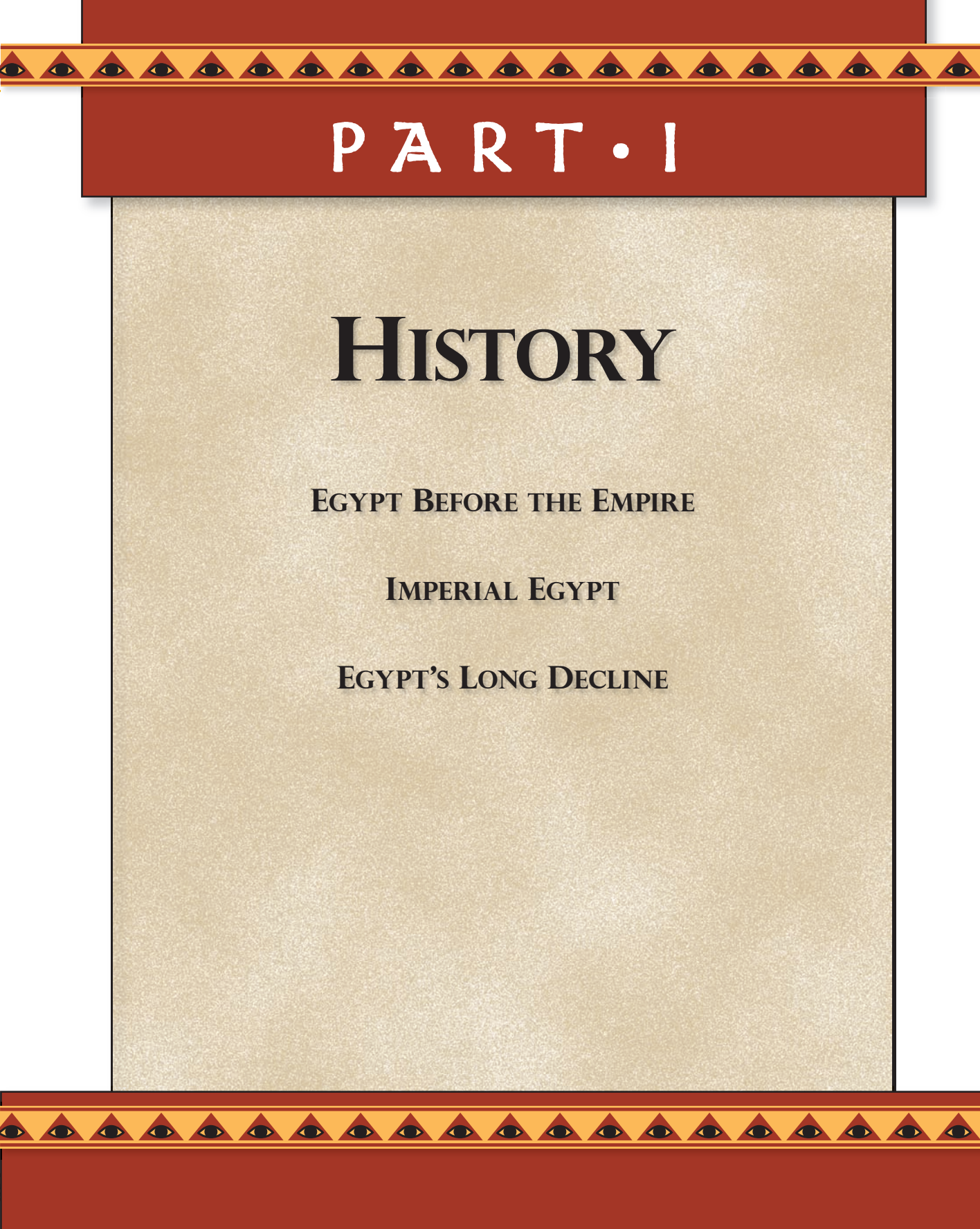
The resulting popularity of all things from Egypt produced waves of what came to be known as Egyptomania—a trend that shows no signs of slowing 200 years later. Egyptian styles of design and ornamentation have long influenced architecture, fashion, makeup, hairstyles, home décor, graphic arts, jewelry, and more.

In 1809, the first edition of Denon's 36 illustrated volumes of *Description de l'Égypte* (Description of Egypt) caused another wave of Egyptomania. Denon's books gave European scholars their first close look at images of Egyptian objects and writing, and helped speed up the process of decoding the hieroglyphics. Egyptian tourism boomed.

Another huge wave of Egyptomania began after archaeologist Howard Carter (1874–1939) discovered the tomb of Tutankhamun (popularly known as King Tut) in 1922. Egyptian design, with its elegant lines and geometrical forms based on plants and flowers, had a tremendous influence on an art movement of the time known as Art Deco.

Hollywood quickly picked up on the popular story of a “curse” on King Tut's tomb. An endless series of “curse of the mummy” movies followed. Movies were made about building the pyramids and the life of Cleopatra. These films were popular and entertaining, but they did not really present the facts.

Egypt becomes more fascinating with each passing year, each new discovery, each television special, each old mystery solved, each new mystery that comes to light. In many ways, the modern world is Egypt's "successor community." People today do not worship Egyptian gods and goddesses or write in hieroglyphics. But no other ancient civilization fascinates people the way Egypt does.



PART • I

HISTORY

EGYPT BEFORE THE EMPIRE

IMPERIAL EGYPT

EGYPT'S LONG DECLINE





CHAPTER 1

EGYPT BEFORE THE EMPIRE

IN EARLY TIMES, THE NILE RIVER VALLEY WAS NOT A GREAT place to live. Each summer, floodwaters filled the narrow gorge from cliff to cliff. When the water receded, the valley remained wet and marshy.

But it was a hunter's paradise. The Nile was alive with fish. Dense stands of papyrus were filled with birds. Antelopes, gazelles, oryx, and wild bulls grazed in lush greenery near the cliffs. Crocodiles and hippopotamuses patrolled the river shallows and muddy pools.

From 8000 to 5000 B.C.E., the Nile valley and surrounding deserts were much cooler and wetter than they are today. But the climate was changing rapidly, turning hotter and drier. The valley started drying out more quickly after the annual floods. Soon, some spots on the sandy plateaus on top of the cliffs were dry year-round.

Around 5000 B.C.E., people started living year-round in the Nile River valley. Great droughts (times when very little water is available) in Asia had caused masses of people to leave their homes. These wanderers wished to return to the lifestyles they had left: agriculture (growing grains and other foodstuffs) and animal husbandry (tending herds of animals for meat, milk, hides, wool, and transportation). To them, the Nile valley looked very inviting.

THE PREDYNASTIC PERIOD

Archaeologists have identified several Predynastic Egyptian cultures. They have named them for the modern towns where remains of these

OPPOSITE

The pyramids at the Giza Plateau still have the power to awe, more than 4,500 years after they were built.

ancient cultures were found. The Badarian culture arose about 5000 B.C.E. It was followed by the Amratian culture (also called Naqada I) about 4000 B.C.E. The Early and Late Gerzean Periods (also called Naqada II) followed around 3500 B.C.E. and 3300 B.C.E.

Because these cultures did not leave written records, it can seem that Egyptian civilization sprang out of nowhere. In fact, the ancient Egyptians had settled down in the Nile valley long before they learned to write. Archaeologists have uncovered enough physical evidence to piece together a general picture of early civilization in the valley.

Early settlers in the Nile valley carefully buried their dead in locations that were safe from the floodwaters. Archaeologists have discovered many cemeteries on high ground near the cliffs.

Villages were located on “turtle-backs” (small rises of land) on the valley floor. But over thousands of years, the Nile’s annual flood buried most evidence of Predynastic Egyptian life. What is known about these people comes mostly from cemeteries, pottery, tools, weapons, jewelry, and other metal objects. Evidence of only a few settlements on the valley floor has survived, and mostly by chance. By studying layers of mud, archaeologists and geologists (people who study the history of rocks) have found that many more settlements are buried deep beneath layers of mud built up over thousands of years.

In the Nile Delta, the river has gradually shifted eastward over thousands of years, wiping out signs of many important early settlements. Other ancient villages lie buried deep beneath modern towns and cities. Many of these sites have had people living there all the time for up to 8,000 years.

Many ancient settlements were dismantled, brick by brick, by the Egyptians themselves. Most ancient buildings were made of sun-dried mud-brick. As mud-brick decays, it turns into *sebakh*—the organic debris left by humans. This *sebakh* makes a cheap, handy fertilizer. Over the centuries, *sebakh* gatherers have removed all traces of entire ancient villages and towns.

Based on the evidence that remains, we know Egyptians of the Predynastic Period lived in small, self-supporting villages on humps of dry land near the river’s edge. They were close to hunting and fishing grounds and to the fields they farmed. They tended herds of animals. They wove baskets and mats from papyrus and reeds. They grew wheat and barley, storing the grains in pits lined with reed mats. They used

milling and grinding stones to turn their grain into flour. They had simple cooking equipment.

They protected their eyes from the harsh sun with “eye paint”: minerals mixed with oils and ground on stone plates. They pressed cleansing oils from the wild castor plant. Compared to people in other parts of the ancient world, they enjoyed a good life. Food, both farmed and wild, was usually plentiful.

They believed in a life after death. They laid a dead person on his left side, knees touching his chin, wrapped him in a reed mat or animal skin, or placed him in a basket. Then they buried him in a shallow oval pit in the sand, facing west. Graves often included jars of beer and food, pottery, makeup tools, weapons, personal ornaments, and small figures symbolizing fertility (the ability to have babies) or life. In the hot, dry sand, bodies dried out before they could rot. This created natural mummies.

Predynastic religion included groups of people who worshipped animals. Animal cemeteries, located near human graves, included the bodies of dogs, jackals, sheep, and cows, wrapped in linen or matting and carefully buried.

COMING TOGETHER

During the Badarian Period, perhaps about 100,000 people lived in the area that was to become Egypt. This increased to 250,000 people during the Amratian Period. With more people to feed, better organization was necessary. Egypt always faced the danger of a low or high Nile. When disaster struck, it took discipline, cooperation, and strong leadership to quickly restore food production and distribution.

Villages gradually banded together into groups under strong chieftains. These regional alliances became the permanent administrative districts of dynastic Egypt. Egyptologists call these districts nomes and their leaders, nomarchs.

During the late Gerzean Period, important people such as nomarchs were buried in increasingly large, complex, rectangular mud-brick structures. Ordinary people were still buried in simple pits in the sand.

There is controversy among Egyptologists about what it means when different people are buried in different ways. Sir Flinders Petrie (1852–1942), who was one of the early scientific archaeologists, thought it meant that a “dynastic race” had invaded Egypt from the Near East or

Why Two Names?

Sometimes you will see two names used to refer to the same god, goddess, or noble person—such as the cobra goddess Edjo (Wadjet). Because Egyptian writing did not use vowels, we do not know how they pronounced their words and guesses have to be made. Thus, many ancient Egyptian words or names have three or more forms (including at least one Greek form) that are more or less accepted. For example, Thutmosis is also called Tuthmose; Taweret is also Tueris; Senwosret is also Sesostris; Khufu is also Cheops; Khafre is also Chephren—and there are many more.

Nubia, taken over, and introduced writing and other cultural advances. He said these superior foreigners received the better burials. Other scholars believe the social divisions were a natural part of cultural trends that were already taking place.

The later Gerzean Period saw increased political activity. The population continued to grow rapidly. Since there are no written records, little is known about how the nomes finally joined up to form two distinct cultures in Upper Egypt and Lower Egypt. By 3400 B.C.E., Egypt ended up with two kingdoms.

The culture in Lower Egypt, around the delta, was called Ta-Mehu. Its capital was Pe (later Buto). Its king wore a red crown (known as *deshret*). Its patroness (protector or guardian) was the cobra goddess Edjo (also known as Wadjet). Its symbols were the papyrus and the bee. While there is no evidence that the ancient Egyptians called this the Red Land, modern scholars have referred to it that way.

The culture in the long, narrow gorge of Upper Egypt was called Ta-Shomu. Its capital was Nekhen (later Hierakonpolis). Its king wore a tall white crown (known as *hedjet*) that was shaped like a cone. Its patroness was the vulture goddess Nekhbet. Its symbols were the lotus and the sedge (a kind of marsh grass). This culture has come to be known as the White Land.

Groups within each of the two lands struggled for control. There were also battles between Ta-Mehu and Ta-Shomu. An ambitious local chieftain arose in Ta-Shomu and united its nomes under his rule. He then did the same in Ta-Mehu.

To piece together the story of Egypt's unification, archaeologists have made many guesses based on a small number of objects: large commemorative palettes (shield-shaped stones) and ceremonial mace heads (hammer-like weapons) carved with scenes depicting political events.

The chieftain who united the two lands (in about 3100 to 3150 B.C.E.) is traditionally called Narmer. His victories are pictured on the Palette of Narmer, which is now in the Cairo Museum. On one side, Narmer wears the white crown as he kills his enemies. On the other side he wears the red crown. After Narmer, Egyptian kings wore the combined double crown (known as *sekhemty*), and adopted names and titles that symbolized their rule over the two lands.

No one knows who taught the people of the Nile valley to write. It might have been people from Mesopotamia (an area between the

Tigris and Euphrates Rivers in modern Iraq and Iran). Mesopotamian cuneiform (wedge-shaped) writing, scratched into slabs of damp clay, is not related to Egyptian writing. But the idea of expressing ideas using symbols could have planted a seed with the Egyptians. Hieroglyphics, Egyptian picture-writing, emerged during the late Predynastic Period. Hieroglyphs are found in a tomb that has been dated to 3250 B.C.E.

THE EARLY DYNASTIC PERIOD

Narmer's victory did not put an immediate end to conflict. There were many periods of local warfare. Forces from the north and south clashed. For a while, the two lands continued to think of themselves as separate kingdoms.

Narmer, who was from Ta-Shomu, may have married a Ta-Mehu princess to establish his right to rule the north.

Throughout Egyptian history, many kings chose wives to strengthen their ties to the royal family or to seal political or diplomatic relationships. Second Dynasty king Khasekhemwy also married a northern princess.

This period, known as the Early Dynastic Period, covers 375 years of what Egyptologists have named Dynasties 0 to 3 (3000–2625 B.C.E.). Most information about the Early Dynastic Period comes from royal tombs at Abydos, and tombs of noble people at Saqqara. The few items not taken by tomb robbers show that arts and crafts were already highly advanced.

Early kings wanted to be assured they would plenty of help and companionship in the afterlife—the life they would live after they died on earth. When they died, servants and family members were killed and buried with them. First Dynasty king Djer was buried with more than 300 people. This cruel, wasteful practice was ended by the end of the First Dynasty.



This is a scene from the Palette of Narmer and dates from about 3150 B.C.E. Narmer united the two lands of Egypt.

The population was growing rapidly, reaching an estimated 1 million by the end of the Second Dynasty. One of the king's most important roles was to increase food production. He did this by extending irrigation systems (a way of bringing water to the fields to help crops grow) and making more land suitable for farming. Wet, marshy land was drained using dams and canals. The new dry land was used for farms, towns, and cities.

First Dynasty king Menes (Hor-Aha) founded the capital city of Memphis on this kind of drained land. Memphis (which means “white walls”), at the southern tip of the Nile Delta, became one of the ancient world's greatest cities.

Artistic, cultural, religious, and political traditions were established during the Early Dynastic Period. These traditions continued throughout Egypt's history.

At Memphis, a highly centralized, bureaucratic government was soon in place. A bureaucratic government is one run by bureaucrats—professional officials who work in the government no matter who is in charge. The government employed large numbers of scribes, tax collectors, accountants, engineers, and architects (people who design buildings). Specialists were put in charge of trade, irrigation, and drainage, and the distribution and storage of food.

Scribes, whose job was to write down all important records, quickly switched from hieroglyphics, which are based on pictures, to speedier hieratic script (a kind of hieroglyphic shorthand). They wrote on sheets or rolls of papyrus, made from the fiber of the papyrus plant. Accountants and engineers had all the basic mathematical and surveying skills they needed to set property boundaries and figure out crop yields. The 365-day calendar was in place. A system of weights and measures simplified trade and tax collection.

Archaeologists have been able to tell who the Egyptians traded with by looking at their art and architecture. Support beams and large doors made of cedar wood mean there was ongoing trade with Lebanon, which is on the Mediterranean coast more than 200 miles north-east of Egypt. (Lebanon is where cedar trees grow.) Articles of ebony and ivory show that trade with Nubia, in north-central Africa south of Egypt, was well-established. These goods were made by the Nubians or by the peoples of the Sudan and of central Africa. Lapis lazuli (a blue precious stone) ornaments show that Egyptian traders were also benefiting from a long-distance trade network that brought in gemstones



and other luxury goods from as far as central Asia. The stage was set for a spectacular flowering of culture.

Early Third Dynasty kings faced serious internal political problems and could not yet afford to concentrate on tomb-building. They granted large estates, herds of animals, and rich gifts to trusted nobles who promised to keep the provinces quiet. These nobles had enormous local power and importance. But when powerful local nobles became too wealthy and independent, they posed a danger to the king. This pattern was repeated several times throughout the dynastic era..

The kings were also busy making sure they had regular supplies of the materials they needed for daily life and the luxury goods they craved. Third Dynasty kings began large mining operations in the Sinai Peninsula, especially for copper and turquoise. Often, the Egyptians had to take military action against local Bedouin tribes to keep the mines open.

Gold came mostly from Nubian mines to the south. Keeping those trade routes open was a problem faced by kings throughout the dynastic

The Step Pyramid was designed by Imhotep as a tomb for King Djoser. It was the world's first all-stone building and the first pyramid.



CONNECTIONS

The Square Sail

Travel south to north in Egypt was always easy because that is the direction in which the Nile River flows. But north to south travel was slow and difficult until a clever boatman had a brainstorm around 3350 B.C.E. He attached a large square of fabric (probably linen) to a yard (a horizontal pole) that was attached to a mast near the front of his Nile boat. This sail caught the north-to-south winds and pushed his boat up the river.

Square sails are not very good if conditions require much steering and tacking (sailing on a zigzag into the wind). But since the Nile is relatively straight, calm, and easy to navigate, Egyptian sailors had no problems. So they never saw the need to improve much upon this invention. The little steering that was required needed only a steering pole or

the use of slender steering oars. The square sail worked well for thousands of years.

When Egyptian sailors went out into the Mediterranean Sea, or into the Red Sea down the coast of Africa to Punt (on the eastern coast of Africa, in the area of modern Somalia), even their seagoing ships had simple square sails.

Later sailors, such as the Greeks and Phoenicians, were faced with the more complex demands of sailing across the Mediterranean Sea. They made many improvements to the square sail. They also developed sails in a variety of designs to more effectively catch the winds and push large, heavy ships through deep water. But the basic shape of all square sails originally came from those ancient Nile boats.

era. Third Dynasty king Djoser extended the boundary of Upper Egypt to the first cataract at Aswan to help secure the southern trade routes.

Djoser's success at managing internal affairs let him turn attention to his tomb. He wanted to do something different, and had just the man to do it: his brilliant vizier (chief official), Imhotep. Imhotep designed the world's first pyramid, the Step Pyramid, at Saqqara. The Step Pyramid is a stack of successively smaller mastabas (the Arabic word for "bench"; it is a small, rectangular tomb with sloping sides and a flat roof) piled atop one another. It measures 467 feet by 393 feet, and is 200 feet tall. It was the first all-stone building in the world.

THE OLD KINGDOM

The Old Kingdom spans Dynasties 4 through 8. That is a period of 495 years from 2625 to 2130 B.C.E. As leader of an increasingly wealthy coun-

try, the king commanded enormous power and riches. This was the age when the kings built the great pyramids that still stand in Egypt today.

The king was also the chief priest. In this role, he controlled the Nile and the inundation, and made sure the sun rose every day. He was considered to be a god, and the rule of the god-king was absolute. He was the only person in Egypt who was expected to enjoy eternal life. Old Kingdom kings poured all of Egypt's resources into making sure that their afterlives would be as luxurious and glorious as possible.

For a few hundred years at the height of the Old Kingdom, all of Egypt's wealth—stone, gold, and gems, every peasant's labor, every artisan's skill, the central government, and all the priests and religious people—was focused on a single goal: building royal tombs. Egyptians called their tombs "houses of a million years," and around the royal tomb they built a city of the dead, where tombs were laid out like a well-planned town. Advances in architecture, astronomy, construction, stonework, sculpture, art, and hieroglyphic writing were all focused on designing, building, decorating, and maintaining the king's tomb and vast necropolis.

Like Djoser, later kings also wanted pyramids. And now they had the wealth to build huge ones. They tried several designs. During his 40-year reign, Fourth Dynasty king Sneferu built at least two pyramids of different designs. Both were at Dahshur. Sneferu's Bent Pyramid was an attempt to build a true, smooth-sided pyramid. The bottom part had a very wide base, and the plan was to make the pyramid quite tall. But during construction, it almost fell in on itself. So the builders had to reduce its height. To get a smaller pyramid on such a wide base, they had to change the angle of the walls. So halfway up, the walls dip in.

Sneferu's Red Pyramid is a smooth-sided structure, making it the first true pyramid. It is not as tall as the Great Pyramid and other famous pyramids in the Giza Plateau.

Sneferu's son, Khufu, was the biggest builder of all. He spent his entire 25-year reign getting ready for his afterlife. The Great Pyramid of Khufu, second king of the Fourth Dynasty, still holds many mysteries. Khufu took the art and science of pyramid building to heights it had never achieved before, and never would again.

Khufu built his pyramid and necropolis at the edge of the desert. He chose a spot on the northwestern corner of the Giza Plateau, southwest of modern Cairo. No one had built there before. When the necropolis was fully developed, it stretched over four miles long. It included the Great Pyramid (surrounded by an eight-foot-high wall) and a huge

temple for the king's funeral. A 2,700-foot-long paved walkway led to the Valley Temple, on the banks of the Nile. At least five pits in the desert held boats in which Khufu's spirit could sail the heavens.

The vast necropolis included hundreds of mastabas for royals, nobles, priests, and officials. Villages housed construction workers and priests to tend to the king's cult after his death. (A cult is a small religious group that usually focuses on one person or god.) There were three small pyramids for Khufu's queens.

There was also a small cult pyramid—a very small pyramid used in religious and magical rituals and ceremonies during the king's funeral. Afterwards, special religious ceremonies were held at this cult pyramid. It may also have been meant for the king to use in some (unknown) way during his afterlife. Archaeologists entered this pyramid only recently, and its exact meaning and use within the necropolis is still a hot topic of debate among Egyptologists.

The Egyptians called the Great Pyramid Khuit Khufu, which means "Khufu's Horizon." It was the largest, most complex, and best built of all the pyramids. It originally rose 481 feet into the desert sky. (The top 31 feet, including the capstone, a special stone at the very top, are long gone.) The pyramid's base covers about 13 acres. Each of the four sides is 755 feet long at the base. Until 1889, when the 1,045-foot Eiffel Tower was built in Paris, the pyramid was the tallest artificial structure on earth. It held this record for more than 4,000 years.

To build the Great Pyramid, more than 2 million limestone blocks were stacked, with amazing accuracy, in 210 rows. Each block weighs an average of two-and-one-half tons, and some weigh up to 15 tons. The blocks in the lowest row are five feet tall. The blocks at the top are 21 inches tall. The outer walls are slightly concave (bowed inward) to make the structure more stable. The capstone at the top was shaped like a pyramid and covered with gold.

No one is sure exactly how the Great Pyramid was built or how long it took. Egyptian priests told Herodotus it had taken 20 years. Herodotus calculated that the project would have required more than 100,000 workers. Modern Egyptologists believe it was more like 15,000 workers. The pyramid builders had what primitive tools by modern standards. But they also had unlimited manpower, religious inspiration, excellent organization, strong leadership, and plenty of time.

For measuring, the builders used ropes and sticks, a plumb bob (a weight at the end of a string), leveling staffs (used to make a straight

line across), and a set-square to mark angles. For cutting limestone, they used flint knives, copper chisels (a chisel is a metal tool with a cutting edge that is used to shape or chip away stone or wood), long copper saws, and wooden wedges. A stonecutter looked for places where a large block would naturally be likely to crack. He pounded wooden wedges into those spots, then soaked the wedges with water and waited for the heat of the sun to expand the wood. The expanding wood split the rock. Harder stone, such as granite, was pounded free with balls or slabs of a very hard stone called diorite. Then it was sanded down to size using quartz sand.

Most of the blocks were cut from exposed limestone near the building site. The outside of the Great Pyramid was covered with slabs of fine white limestone from Tura, east of the Nile. (Most of these slabs are gone now—they were removed to build medieval Cairo.) The king's burial chamber and sarcophagus (the outer stone coffin) were made of pink granite. This stone was cut in quarries (pits where blocks of stone

The Great Sphinx is a lion with a human head. It has the face of Khafre, the king who built it. Behind it is the Great Pyramid, built by Khufu, Khafre's father.



are cut) near Elephantine. It was brought down the Nile to the Giza Plateau on large, flat boats called barges.

At the time the Great Pyramid was built, the Egyptians had donkeys and oxen, but no horses. They did not use pulleys or wheels. On flat ground and slight hills, the massive blocks were dragged with heavy ropes over oiled rollers made of wood or stone. As the walls got higher, the blocks were probably pushed into place along ramps made of earth and mud-brick. The design of the ramps is a subject of much controversy.

The Great Pyramid was not built by slaves. Workers were drafted from all over Egypt. These workers were mostly farmers who had nothing to do while their fields were underwater as a result of the inundation. They worked for a season, then returned home. They all worked under a core group of architects, engineers, master builders, stonemasons, artisans, and scribes.

The Great Pyramid's interior is a complex maze of chambers, tunnels, shafts, and corridors (long, narrow hallways). There is much controversy about the purpose and nature of some of these features. Egyptologists also wonder whether there might be still-undiscovered features inside, or beneath, the Great Pyramid.

Khufu's son, Khafre, built his slightly smaller pyramid complex near his father's. He added a unique touch: the Great Sphinx. This giant statue shows a lion with a human head and Khafre's face. He is lying down at the entrance of the necropolis, as if he is guarding it. The statue is 60 feet tall and 240 feet long, and was carved from a natural piece of limestone that was at that spot.

King Menkaure's pyramid was the third built at Giza. It is only half the height of the Great Pyramid. In fact, the huge pyramids of Sneferu, Khufu, and Khafre were not typical of the vast majority of pyramids. Most were much smaller. Many scholars think that after Khafre, kings turned their attention to building and decorating temples.

In Egyptian society, the sky had magical and religious qualities. One of their most popular gods was the sun god, Re. Astronomers (people who study of the movement of stars and planets) were also priests. As they observed the sun and the other objects in the sky, the astronomer-priests of Re made many discoveries. They recorded the movements of objects in the sky and learned to measure the passage of time based on the rising and setting of stars and constellations.

One of the skills needed to track the movements of the stars is an ability to measure angles. The astronomer-priests understood the geom-



CONNECTIONS

Timekeeping and Shadow Clocks

The Egyptians were among the first people to divide the daylight and nighttime periods into smaller units. They kept track of these with primitive but clever shadow clocks.

Many obelisks served as shadow clocks. These tall, slender, four-sided monuments date from as early as 3500 B.C.E. The moving shadows they cast enabled observers to divide the daylight hours into morning and afternoon. Marks on the ground nearby recorded the lengths of the shadows at various times of the year. On the longest day of the year, the shadow at noon was at its shortest length. Other marks on the ground near the obelisk's base marked smaller units of time.

The Egyptians may also have developed the world's first portable timepiece—ancestor of modern watches. This device dates from

around 1500 B.C.E. It is a 14-inch-long bar with a raised piece across the center. It divided a sunny day into 10 parts, plus two twilight hours—morning and evening. By facing east and holding this timepiece east and west in the morning, the observer could read the time from the shadow cast by the crosspiece across five measured markings on the bar. After noon, he would face west and read the time from shadows cast in the opposite direction.

Timekeeping at night was invented later. Around 600 B.C.E., Egyptians developed a device called the *merkhet*, one of the world's oldest known astronomy tools. An observer lined up a pair of *merkhet*s with the Pole Star to establish a meridian (a north-south line). By observing when other stars crossed this meridian, he could accurately track the nighttime hours.

etry of angles. Because of this, they were also skilled at surveying land (mapping its features). They guarded their scientific knowledge closely.

Because the priests of Re possessed so much useful knowledge, the cult of the sun god became wealthy and powerful. The first kings of the Fifth Dynasty finally realized that building huge tombs for themselves while ignoring the rest of the country was not wise. They quickly saw the advantages of being associated with Re's powerful cult. Fifth Dynasty king Userkaf built the first temple to the sun god. His successors built many more.

Fifth Dynasty pyramids were not as well built as the ones of the Fourth Dynasty. They were constructed with rubble or mud-brick cores covered with stone slabs. When the outer stone slabs were stolen for other buildings (as always happened, sooner or later), the pyramids crumbled.

Since the pyramids could not be relied on to stand forever, kings started looking to magic to ensure a comfortable afterlife. The tomb of the last king of the Fifth Dynasty, Unas, contains the first known example of the Pyramid Texts. These are hundreds of magic spells to help the dead king make his way through the dangers of the underworld on his way to paradise.

During the Fifth Dynasty, the king gave up some of his power and nomarchs and provincial nobles became increasingly wealthy and powerful. Many local posts became hereditary, with fathers passing power and tax-free estates to their sons. Especially in Upper Egypt, local rulers controlled mini-kingdoms and paid little attention to what the king in Memphis had to say. As long as Egypt remained peaceful and taxes rolled into the royal treasuries, the kings went along with this arrangement.

But there was rumbling on the borders. Soldiers often had to be sent to Nubia to protect trade routes and to recruit mercenaries (soldiers for hire) for the army and police forces. A major fort was established at Buhen, near the second cataract. Libyan raiders made repeated attacks from the western desert.

The Fifth Dynasty ended in confusion. The first king of the Sixth Dynasty, Teti, settled things down. But the power and influence of the king was severely declining. Local nobles no longer felt it was necessary or even desirable to be buried near the king. They built tombs for themselves and their families in their own districts.

The last known king of the Old Kingdom, Pepy II, took the throne when he was a child. (Pepy II was, in fact, a Sixth Dynasty king, and the Old Kingdom ended in the Eighth Dynasty. However, not much is known about the kings of Dynasties 7 and 8. Pepy II is the last king from this period to have had much influence over the course of events in the Old Kingdom.) The power of the king declined steadily during his 94-year reign. As the power of central government decreased, the power of local rulers increased. Civil disorder followed Pepy's death.

A few hundred years of gloriously high culture had been followed by decline in royal power and social order. Many scholars believe the artistic and architectural achievements of the Old Kingdom were never equaled. But the Great Pyramid and similar projects drained Egypt's resources. The power and importance of the king, which led him to build such huge tombs and temples, got out of hand. While the powerful and all-too-independent nobles rebelled against the king's authority,

a series of low Niles also brought widespread crop failure and famine. Pyramid-building was the last thing on the king's mind.

THE FIRST INTERMEDIATE PERIOD

Local rulers and nomarchs had already grabbed much of the authority of the god-king. When the collapse finally came, it was sudden and complete. While general disorder and the independence of local rulers helped bring about the collapse of the Old Kingdom, many scholars believe that climate change in Africa and the Near East was another very important factor.

In fact, much of Africa was plagued by a severe drought during this period. Using cutting-edge scientific tools, researchers have studied dated sediment cores (samples of soil and rock that now lie deep underground, but were on the surface during that era). This has enabled them to track the ancient Nile's annual flood levels and discover variations in how much or how little water flowed into the Nile.

Local historical records and surviving art works provide additional evidence for a widespread drought that came at the same time as the breakdown of the Old Kingdom. Changes in the patterns of monsoon rains over the Abyssinian highlands contributed to this drought, and to a series of low Niles. Food production quickly declined. Hot winds blew from the south for weeks at a time, according to some ancient texts. Sandstorms and dust storms hid the sun for days. Farms that were already dry turned to dust. In some places, the Nile was so shallow that it could be crossed on foot.

Drought and famine in the Near East drove groups of starving, desperate refugees to Egypt's borders. These hungry people used up even more of the food and water supplies.

These disastrous events made people question the god-king's ability to control the river and to ensure agricultural success. The king quickly lost any reputation he still had for magical powers. Only local rulers had the power to keep out invaders, control the distribution of what food was left, and enforce water conservation.

Egypt quickly broke up into many small kingdoms ruled by powerful chieftains. Their only concerns were making sure their own lands were secure and keeping invaders out. Art, tomb building, and everything else had to wait.

This period spans from about 2130 to 1980 B.C.E., or Dynasties 9 to 11 (early). But in fact, there is little information and much confusion about the length of this period. Estimates range from 140 to 200 years.

Nobody really knows how many kings there were, either. Very quickly, one man after another (sometimes more than one at a time) claimed the throne. None of these people who declared themselves king had much influence beyond the capital city of Memphis.

By 20 years after Pepy II's death, the Nile Delta in the north of Egypt had been invaded by refugees and nomadic tribes from north-east of Egypt in the Near East, Palestine, and beyond, to the Tigris-Euphrates Valley. (Nomads are people with no permanent home who travel from place to place, usually to find fresh pasture for their livestock.) What was left of Egypt's government fled south.

One powerful group ruled the delta and parts of Middle Egypt from Herakleopolis during the ninth and tenth dynasties. They brought a temporary end to warfare. They also kicked the invaders out of the delta, built forts along the eastern borders, improved irrigation systems, and reestablished Memphis as a regional capital. Another powerful ruling family (the Eleventh Dynasty) ruled from Thebes. There were frequent border clashes between the Thebans and Herakleopolitans.

THE MIDDLE KINGDOM

After years of fighting, the family in Thebes won victory. They reunited Egypt under Mentuhotep II, who was leader of the last phase of the struggle against the Herakleopolitans. When he became king, Mentuhotep took the royal title "He who gives heart to the two lands." (This title was called a Horus-name, after Horus, the falcon-headed god who was the traditional protector of Egyptian kings. The king is the physical presence of Horus on earth. To the ancient Egyptians, the king *was* Horus.)

In the 14th year of his reign, Mentuhotep II crushed a major rebellion in Abydos. This secured his control of Upper Egypt. He changed his Horus-name to "Lord of the white crown."

It was not until his 39th year of rule that Mentuhotep II reunited Upper and Lower Egypt. Then he changed his Horus-name to "Uniter of the two lands." The Middle Kingdom began in this year. It lasted 350 years and encompassed Dynasties 11 (late) to 14 (1800 to 1630 B.C.E.).

With strong central control, peace and prosperity returned. Mentuhotep II ruled from Thebes. He built a temple-tomb for himself at Deir el-Bahari, west of the city. His son, Mentuhotep III, inherited a stable, united Egypt.

Models and Magic

The tomb of Meketre, vizier to Eleventh Dynasty king Mentuhotep II, held a secret missed by the looters who otherwise took everything. In a sealed chamber, Meketre had placed 25 detailed models of daily life and activities that his spirit could magically bring to life to brew his afterlife beer, catch fish for him, clean his house, serve his meals, bake his bread, carry water, care for his animals, fight off invaders, weave linen, build him a Nile yacht—any task that would need doing in the afterlife.

A model of the cattle census is complete with animals, herdsmen, village offi-

cials, and royal tax collectors. There are models of granaries (buildings for storing grain), boats of different sizes, and Meketre's house and garden. There are miniature workshops for bakers, butchers, brewers, weavers, and woodworkers. Meketre added model serving girls to carry water, and battalions of tiny archers and soldiers, ready to fight if the need arose. Some of the models from Meketre's tomb can be seen at the Metropolitan Museum of Art in New York City (the rest are in the Cairo Museum).

Mentuhotep II and the kings who followed faced a new Egypt that had experienced chaos and misery. For the rest of the dynastic era, the suffering of the First Intermediate Period was remembered as a warning about what happens when order breaks down.

Middle Kingdom rulers were faced with a growing population (perhaps 1.5 million people by 2000 B.C.E.). As a result, they concentrated on expanding trade and agriculture, promoting the welfare of the country, and keeping the peace. Unlike the all-powerful god-kings of the Old Kingdom, Middle Kingdom rulers could not focus the entire wealth of the nation on building huge tombs and necropolises. They did build pyramids, but not as large as the ones of the Old Kingdom. Instead, they devoted their attention and resources to repairs, draining land, irrigation, and building harbors. They strengthened border defenses, and dealt quickly and firmly with raids by Libyans and Bedouins.

They renewed diplomatic and trading relationships that had been almost forgotten. Ambassadors and groups of traders traveled to the

ancient Phoenician city of Byblos and other cities in the Near East, as well as Nubia and Punt. A new middle class of independent professionals, artisans, and tradesmen arose. Many farmers owned their own land, weakening the power of the regional nobles.

Secular (nonreligious) literature—stories, poetry, songs, proverbs, and wisdom literature (proverbs, collections of wise sayings, morality tales, fables, and advice to the young from their elders)—became popular. Stories called pessimistic literature reminded Egyptians about the misery of civil war, so they would not forget.

Thebes was now the capital. The traditional Theban god, Amun, became very important. He merged with Heliopolis's sun god Re, becoming Amun-Re. The Theban kings provided financial support and rich gifts to Amun-Re's priesthood and temples.

The rapidly-growing cult of Osiris promised even poor peasants a pleasant afterlife. The Pyramid Texts were updated to apply to the wider range of spirits who were now able to have eternal life. These revised spells, called the Coffin Texts, were painted or carved on wooden coffins. The new middle class of artisans started producing the goods people were buried with to make sure they had what they needed in the afterlife. These so-called grave goods included pottery, *ushabtis*, *serdab* statues (small statues of a dead person, sealed into a chamber in the tomb), furniture, models showing scenes from everyday life, and more.

The governor of the south and vizier of Mentuhotep IV overthrew the king and became Amenemhet I, founder of the Twelfth Dynasty. His 29-year reign gave Egypt its first extended period of stability and security in more than 200 years. His first move was to build a boat to cruise the Nile. The purpose of his trips was to put nomarchs in their place and crush troublesome groups from Asia and Nubia.

Amenemhet I decided to move his capital to a region that put him in a better position to control both Upper and Lower Egypt. So he established a new capital at Itj-tawy, about 20 miles south of Memphis. He introduced "coregency" (a king sharing power with his son) to strengthen royal succession and eliminate the instability that often followed a king's death. Coregency made the change to a new king much smoother, and was adopted by several later kings.

Amenemhet shared the throne with his son, Senwosret, for 10 years. Senwosret handled the military and kept the borders secure. He

IN THEIR OWN WORDS

The Teaching of King Amenemhet I

Amenemhet I was the first king of the Twelfth Dynasty during the Middle Kingdom. Some scholars think Amenemhet I wrote this *Teaching* after he was surprised and betrayed, and almost killed, by a trusted bodyguard. It is possible that his fear of another attempt to murder him caused him to name his son, Senwosret I, as coregent. Other scholars believe that the assassination was successful and that the *Teaching* was written by Senwosret I.

The main source for this document is the Papyrus Millingen, copied in 1843 but now lost. The handwriting on the Papyrus dates it to the second half of the Eighteenth Dynasty. The parts here are from sections 2, 6, 7, 12, and 13.

Gather yourself against dependants—nothing comes of it. Anyone puts their heart in the direction of their fear. Never approach them alone. Trust none as brother. Make no friend. Create no intimates—it is worthless. . . .

It was after the meal, night had fallen. I took an hour of rest. I lay on my bed, for I had grown weary. My heart began to follow sleep. Suddenly weapons of counsel were turned against me. I was like a snake of the desert. . . .

I awoke to my bodyguard. I found it was a body blow by a soldier. If I had swiftly taken weapons in my hand, I would have turned the wretch back in confusion, But there is no night champion, no-one who can fight alone. There can be no success without a protector. . . .

I trapped lions and brought away crocodiles. I subdued the people of Nubia, and brought away the Medjay. I made the Asiatics do the dog walk. . . .

I made my house adorned with gold, its ceilings in lapis-lazuli, its walls in silver, its floors in hard stone, its doors in copper, its bolts of bronze, made for eternity, equipped for everlasting life. I know this, as it is I who am its Lord of All.

The killing, or attempted killing, of the god-king was seen as very dangerous for Egypt. It could lead to chaos and civil disorder. So the writer makes sure to point out that in the end, the king still has his wealth and power. The writer's advice can be summed up as, "Do not trust anyone!"

(Source: "The Teaching of King Amenemhat I," Digital Egypt for Universities, University College, London. Available online. URL: <http://www.digitalegypt.ucl.ac.uk/literature/teachingamenemhati-index.html>. Accessed January 15, 2008.)

established towns with forts and trading posts as far south as the third cataract.

When Senwosret I became the king after his father died, he continued his military activities. He secured Egypt's southern border at

the second cataract with 13 forts. He sent mining expeditions to Nubia, Syria, and the western oases. He built a magnificent temple to the sun at Heliopolis.

The 34-year reign of Senwosret's son, Amenemhet II, saw great achievements. The king widened and deepened the canal that fed the Faiyum from the Nile. This expanded hunting, fishing, and agriculture. He sent traders to Punt, the Red Sea, Lebanon, and the Levant. He carried on a busy and prosperous trade with the Mediterranean island of Crete.

Senwosret II, son of Amenemhet II, ruled over a peaceful, prosperous Egypt. He expanded farming in the Faiyum and established friendly (perhaps too friendly) relations with the nomarchs. His habit of giving them tax-free land grants and other rich gifts was one that had caused trouble before. His son, Senwosret III, decided to end that problem once and for all. He created a new government structure that greatly reduced the power of the nomarchs. He closed their courts and ended their rights and privileges.

The new government had three major departments based on geography: North, South, and Elephatine/Nubia. Each was overseen by a council of senior officials reporting to a department vizier, who reported directly to the king.

During his 18-year reign, Senwosret III showed remarkable skill in managing economic affairs and foreign policy. He led a series of military campaigns to secure Nubian trade routes, protect the southern borders, secure access to the gold mines, and put an end to trouble from the Nubians. He cut a canal around the first cataract, improving on a primitive canal built during the Old Kingdom. This made trade down the Nile faster and safer, and enabled him to quickly move soldiers to trouble spots by boat. Senwosret also built many forts along the southern frontier.

Senwosret's relations with Asia were mostly peaceful trading partnerships. However, his soldiers did sometimes raid areas and steal what they found. Much of the wealth from trade and raids that flowed into Egypt went to support the temples of Amun-Re at Thebes.

The next king, Amenemhet III, enjoyed 46 years of peace, prosperity, economic growth, and high artistic achievement. He sent almost continual expeditions to the turquoise mines of the Sinai to satisfy Egypt's endless desire for this prized light blue gemstone.

Amenemhet III built two pyramids for himself. One he abandoned. The other, where he was buried, is famous for the large number of fea-



This is Amenemhet III. His pyramid is famous for the large number of features designed to keep out tomb robbers out. They got in anyway.

tures designed to keep tomb robbers out. There were trap doors, false passages and dead ends. His sarcophagus was carved from a single, massive block of quartzite. After his burial, it was topped with a 45-ton stone slab, and all passages and corridors were filled with rock and rubble. His tomb was looted anyway.

Little is known about the last two Middle Kingdom rulers whose names we know, Amenemhet IV and Queen Sobeknefru. Climate change was causing instability in the inundation—the river was always either too high or too low. The resulting disruption led to Egypt's second extended period of disorder, known as the Second

Intermediate Period. Egypt was about to experience her worst nightmare: rule by foreigners.

THE SECOND INTERMEDIATE PERIOD

Egypt entered a period of instability, although it was not as long or as severe as the First Intermediate Period. The Thirteenth Dynasty, ruling from Itj-tawy, included many kings with brief reigns. They kept some control over both Upper and Lower Egypt, but they left few monuments or records.

A competing royal family (the Fourteenth Dynasty) ruled from a power base in the western delta. It included an unknown number of kings who came and went quickly. Egyptian control of Nubia ended, but many Egyptians stayed to work for local Nubian rulers.

As the 13th and 14th dynasties struggled with one another, a group of foreigners of Semitic origin took control of Egypt from their eastern power base, Avaris, in the Nile Delta. These people were the Hyksos. They had immigrated into the eastern delta and settled in, waiting for the right moment to make their move.

They had political influence only in the delta. The five (or six) Hyksos kings adopted Egyptian titles, clothing styles, and traditions. They worshipped traditional Egyptian gods and goddesses (they preferred Seth over Osiris), and also introduced several of their own to the religious mix. They built many temples and sponsored developments in Egyptian arts, crafts, and literature. They attacked Memphis, but did not cause the widespread terror and destruction that later writers claimed they did. They gradually took control of the throne before Egypt realized what they were doing.

The horror of having their throne seized by foreigners caused the Egyptians to see the Hyksos in the worst possible light. But in many ways, Hyksos rule was the best thing that could have happened to Egypt. It rescued Egypt from political chaos and cultural decline. The Hyksos brought fresh ideas and new technologies to a land that had become fixed in its outlook.

They introduced Egypt to superior bronze-age technology, which was already in wide use elsewhere. They introduced new military strategies, tactics, and equipment. These included the chariot and horse, a better bow and arrow, scale armor (armor with solid, overlapping tabs of metal, rather like metal fish scales), and improved daggers (fighting

knives) and swords. Without these innovations, it is doubtful Egypt could have become an imperial superpower.

The Hyksos takeover deeply changed the Egyptians' view of the world. They realized they needed a strong, even aggressive, foreign policy to prevent the many up-and-coming nations around the Mediterranean from coming in and taking whatever they wanted—including the throne. For the first time, Egypt established a regular army and a professional military. Because of the Hyksos, Egypt was no longer isolated from the world.

As the Hyksos firmed up their control over the delta, a family of Theban princes formed a ruling group (the Seventeenth Dynasty) at Thebes. They controlled Upper Egypt from Elephantine to Abydos, north of Thebes. This group preserved Middle Kingdom culture.

The Hyksos and the Nubians, who had formed an alliance, surrounded the Thebans for almost 100 years. Finally, growing tensions exploded into open conflict. The Thebans were determined to drive the foreigners out of Egypt. King Seqenenre Tao mounted fierce battles against the Hyksos. When he died, his son Kamose led the army.

The battles continued with Kamose's son, Ahmose. About halfway through his 26-year reign, Ahmose led attacks against the Hyksos at their major cities of Avaris and Memphis. After a hard-fought campaign, Ahmose won. He chased the Hyksos out of Egypt and all the way back to Palestine.

The Theban ruling family became the Eighteenth Dynasty. Ahmose I was the first king of the New Kingdom. Egypt's glorious imperial age was about to begin.



CHAPTER 2

IMPERIAL EGYPT

IN THE 350 YEARS OF DYNASTIES 18 AND 19, EGYPT WAS the world's first great empire. A series of brilliant military pharaohs extended Egypt's rule from the fourth cataract deep in Nubia in the south, to the Euphrates River in the Near East.

The imperial age brought vast wealth and a new international outlook to Egypt. They had been isolated in their narrow valley, but now Egyptians ruled several nations. They adopted foreign gods and goddesses, and imported their fashions and technologies.

Sons of the leaders of conquered territories in Nubia and Asia were required to live in Egypt, study in temple schools, and learn Egyptian ways. Foreign princesses joined the royal harem—the king's group of wives. Harems could be quite large, with hundreds of wives. Although these foreigners lived in luxury, their marriages were strictly diplomatic. Their presence kept the tribute and gifts flowing and discouraged revolts.

Trade was always important, and now took place over a wider area and became more varied. Finely made products—weapons, furniture, faience (glazed earthenware), linen, jewelry—from the workshops of Egypt's skilled artisans were in demand everywhere. Goods and materials the Egyptians had always craved poured in from abroad.

From Nubia and farther south came gold, ebony, ivory, amethyst (a purple gem), carnelian (an orange gem), jasper (a reddish-brown gem), diorite (a hard, grayish-green stone used for statues), leopard skins and other exotic animal pelts, incense, oils, ostrich eggs and feathers, and monkeys. From the mountainous deserts to the east came carnelian, garnet (a red gem), jasper, rock crystal, obsidian (a black stone), green and

OPPOSITE

The royal family of Akhenaten offers a sacrifice to Aten, the sun god, on this 1350 B.C.E. relief from Tell el-Amarna. During Akhenaten's brief reign, Egypt had the first recorded monotheistic (belief in one god) religion. Akhenaten's radical changes to the Egyptian religion were overturned soon after he died.

This sphinx was built during the reign of Hatshepsut. She was the aunt of Tuthmosis II, and became one of Egypt's most powerful female pharaohs. But after her death, her nephew had most evidence of her reign erased.



multi-hued feldspar, alabaster (a white stone), copper, and rare emeralds. The copper and turquoise mines of Sinai were in constant production. Silver and lapis lazuli came from the farthest parts of the Near East.

With Ahmose's triumph over the Hyksos, the Thebans reigned supreme. In a series of military campaigns, Ahmose secured Egypt's borders. To build support for his central government, he gave the nomarchs and provincial nobles a great deal of authority and responsibility. Then he backed this up with land grants (the right to use certain pieces of land) and rich gifts. He also started major temple-building projects all over the country.

His son, Amenhotep I, ruled for 21 years. He continued his father's military campaigns in Nubia and Syria. He also founded the great temple of Karnak, near Thebes.

The next two kings, Tuthmosis I and Tuthmosis II brought wealth to the priests of Amun-Re and conducted successful military campaigns into Nubia and Syria.

Tuthmosis III became king as a small child. His aunt Hatshepsut, ruling as his regent (a person who is appointed to run things because the king cannot), grabbed the throne within two years.

Hatshepsut was a talented and ambitious woman, and became one of Egypt's most powerful female pharaohs. She built and restored many temples. One was a splendid temple of unique design at

Deir el-Bahari near Thebes, where priests could tend her tomb after she died. With her generous royal support, the Amun-Re priesthood became even richer.

Hatshepsut was not much concerned with military matters, but she was very interested in trade. She sent many expeditions to the turquoise mines of Sinai, and to Punt, down the African coast. Meanwhile, Tuthmosis III was in the army, studying military strategy, and planning his comeback.

There is much historical evidence that Tuthmosis III disliked his aunt Hatshepsut. As soon as she died (some scholars think Tuthmosis actually helped plan her death), he destroyed many of her monuments and those of her supporters. He scratched her name off inscriptions and made sure she was left off the official king lists. His revenge was complete. He then proceeded to make Egypt into a superpower.

BUILDING A SUPERPOWER

Tuthmosis III launched campaigns against Syria each summer for 18 years. He was the first king to use ships for major troop movements. In his most brilliant victory, he marched to Gaza in 10 days and conquered the city. He proceeded to Meggido and drove off the enemy after a daringly clever surprise attack, which was completed with a seven-month siege.

Tuthmosis III conquered more than 350 cities in the Near East, from the northeast border of Egypt to the Euphrates River. Tuthmosis I had already conquered Nubia, allowing Tuthmosis III to concentrate on Asia. His primary opponent was the Mittani Empire in northern Syria, which eventually fell to Egypt.

The court of Tuthmosis III was luxurious beyond anything they had ever known. During his 54-year reign, nothing was too good for his hundreds of wives (including many foreign princesses) and military generals. Tombs and grave goods from his era are remarkable for their high quality and because so much wealth was buried with each person.

The death of Tuthmosis III caused widespread revolts around his empire. Because Egypt had never been known for wanting to build an empire, the conquered peoples hoped that when Tuthmosis III died, they would be able to regain their independence. But his son, Amenhotep II, quickly set them straight.

Amenhotep II was famous as a sportsman and an athlete. He was a strong, energetic man, and he put down every revolt. He moved swiftly into Nubia, killing seven captive Nubian princes. A series of major battles in Palestine confirmed that Amenhotep II meant to hold on to his empire. For the rest of his 26-year reign, Egypt experienced peace and prosperity.

This era continued with the reigns of Tuthmosis IV and Amenhotep III. Tuthmosis reached a peace agreement with the Mittani kingdom, and married at least one Mittani princess. Amenhotep III had little need for military action because his empire was so secure. Egypt was the world's undisputed superpower. Amenhotep built grand

The Pharaohs

The word *pharaoh* comes from the word *per-aa*, which is the Egyptian word for "great house" or "palace." Over time, the phrase "the Great House says . . ." came to mean "the king says . . ." just as today the phrase "the White House says . . ." really means "the president says . . ." By the Eighteenth Dynasty, Great House, or Pharaoh, was one of the king's titles.

The grandest and most important cities in imperial Egypt were clustered around the Nile River. In this mainly desert region of North Africa, the Nile meant life.

temples, enhanced his reputation as a sportsman, and enjoyed luxury and high living at his fabulous court. He had more than 1,000 wives. His era is known for magnificent artwork and statuettes.



Egypt's wealth during this prosperous era did not come from looting during war (an accepted practice in ancient times), but from vast international trade and tribute from conquered provinces. Gold poured in from the empire's mines. The king built a spectacular temple at Thebes for his afterlife. It included two 60-foot-tall statues of himself.

It was lucky for Egypt that the next king reigned only 17 years. Amenhotep IV focused on promoting his new religion and badly neglected the empire. He changed his name to Akhenaten in the first

IN THEIR OWN WORDS

The Amarna Letters

The Amarna Letters are some of the most valuable documents ever found from ancient Egypt. This collection of documents, written on flat pieces of clay in the cuneiform script of Mesopotamia, was discovered in 1887 at Tell el-Amarna (Akhetaten). The discoverer tried to sell them, only to be told they were fakes. They are not.

Most of the letters are personal and diplomatic correspondence between the courts of Eighteenth Dynasty kings Amenhotep III and Akhenaten and foreign kings and officials. Subjects include complaints about Egypt's foreign policy, demands for gifts or favors, requests for special treatment, pleas for more foreign aid, insincere apologies for border raids, attempts to gain favor with flattery and praise, and boring details of trade agreements.

This letter is to Amenhotep III from Kadashman Enlil I, king of Babylon, who ruled until about 1375 B.C.E.

How is it possible that, having written to you in order to ask for the hand of your

daughter—oh my brother, you should have written me using such language, telling me that you will not give her to me as since earliest times no daughter of the king of Egypt has ever been given in marriage? Why are yo;u telling me such things? You are the king. You may do as you wish. If you wanted to give me your daughter in marriage who could say you nay? . . .

As to the gold about which I wrote you, send me now quickly during this summer . . . gold in abundance, as much as is available. If you send me this summer . . . the gold concerning which I've written to you, I shall give you my daughter in marriage. Therefore, send gold, willingly, as much as you please.

(Source: "Letter from Kadashman Enlil I, king of Babylon, to Amenhotep III," A Short History of Ancient Egypt, The Amarna Letters. [Based on a French translation by Claire Lalouette, 1986.] Available online. URL: http://www.reshafim.org.il/ad/egypt/kadashman_enlil.htm. Accessed February 2, 2008.)

Akhenaten and His Religion

The Aten, a winged sun disk, was a little-known god in whom King Amenhotep's parents had taken an interest. Of course, like all Egyptians, they viewed him as one god among many. But by his fifth year as ruler, Amenhotep IV had promoted the Aten to official state god. The king declared that the Aten was the one true god, and he banned all others—an incredible change in a land where 2,000 gods were worshipped. Historians call this brief era of Akhenaten's radical religions the Amarna Period.

Akhenaten built a city dedicated to the worship of Aten and named it Akhetaten (modern Tell el-Amarna). Within four years, Akhetaten was fully functional. It became both the religious and political capital of Egypt. Buildings were decorated with art in the new Amarna style, with charming scenes of Akhenaten, his wife Nefertiti (which means "a beautiful woman has come"), and their six daughters.

The upper class people in Akhenaten's time found it wise to swiftly convert to his religion. But almost everyone else continued to quietly worship their traditional gods and goddesses. The Aten religion, actually a cult formed around the personality of the king, never caught on outside the king's close circle.

In the 12th year of Akhenaten's reign, several members of his family died sud-

denly, possibly of plague. Nefertiti vanished. She may have died, or she may have been "retired" because she produced no sons. Akhenaten married at least one of his surviving daughters—but still got no sons. As time passed, he still refused to accept interest in the old gods and traditional religion. After ruling for 17 years, he died.

Massive confusion followed. A plague or some other disease may have swept through Akhetaten, killing both royals and workers. The identity of his immediate successor is a hot topic of scholarly debate.

King Tutankhaten followed the mystery successor, changed his name to Tutankhamun, and moved the capital back to Thebes. He tore down Aten's temples, and erased the names of Akhenaten and Nefertiti from monuments. Amun-Re ruled once more.

Akhetaten was abandoned. With its residents gone and valuables removed, it sank back into the desert sands. Archaeologists did not rediscover the city until the early 1800s.

The kings who followed Akhenaten tried to erase him, his wife, and the entire embarrassing episode from history. In spite of their efforts, Akhenaten and Nefertiti are among the best-known rulers of ancient Egypt. And the Amarna Period is one of the most intensively studied and fascinating eras of Egyptian history.

year of his reign. The new name reflected his religion, in which he worshipped just one god, the Aten.

The next known king was Tutankhamun, who was 8 years old. His power was controlled and manipulated by older, experienced officials. During his 10-year reign, extensive building work was done at the temples of Karnak and Luxor. There were military campaigns in Nubia and Syria, although Tutankhamun probably did not personally participate. He left no heir.

Akhenaten's reign upset the stability of the empire at a time when the neighboring Hittites were becoming a major force. Renewed military efforts would have been needed, but Tutankhamun had been too young and inexperienced to lead effective military campaigns. After Tutankhamun's death at age 18, his wife, Ankhesenamun, wrote to the Hittite king and asked him to send one of his sons. She would marry the son, she said, and he would become king of Egypt.

This sounded too good to be true. The Hittite king suspected a trap and sent a team of diplomats to investigate. They were assured that Ankhesenamun's story was true and her offer sincere. So the Hittite sent his son—who was ambushed at the border and murdered. The next three generations saw periodic outbreaks of war between Egypt and the Hittites.

Tutankhamun's successor, Ay, was an elderly official who had served under several kings. Ay ruled only four years. He was followed by Horemheb, an experienced, war-hardened general who had served well under three kings. He was extremely ambitious, and grabbed the throne when Ay died. He married a sister of Nefertiti to establish a link to the royal family.

There is little evidence that Horemheb undertook any major military campaigns. His 27-year reign was focused on restoring and firming up the empire, internal reforms, and rewriting history. He immediately repaired and reopened temples that were closed by Akhenaten. He restored the wealth and prestige of the Amun-Re temples with generous royal support. He appointed army officers loyal to him as chief priests, as a way of securing his power. He also did everything possible to erase all records of the kings between Amenhotep III and himself.

After Horemheb's death, his vizier became king. Ramesses I, first king of the Nineteenth Dynasty, was a career military officer who reigned only two years. His son, Sety I, oversaw a rebirth of Egyptian

Ramesses Meets Moses?

Ramesses II is believed by many scholars to be the "Pharaoh" mentioned in the Bible in the book of Exodus. This book describes how Moses freed the Israelite people from Egyptian slavery. However, there are no surviving records in Egypt of this event during the reign of Ramesses II—or any other pharaoh.

King Tut Mystery Solved?

Ever since a 1968 X-ray of Tutankhamun's skull revealed signs of a severe blow to his head, Egyptologists have wondered whether he was murdered. Who might have killed the boy king, and why?

Cutting-edge technology has (almost) put the mystery to rest. Tutankhamun was almost certainly not murdered. He probably died from a terrible infection that set in after he broke his leg.

In January 2005, a computed tomography (CT) scanner, donated by its manufacturer, Siemens, and the National Geographic Society, scanned the insides of Tut's mummy. It recorded more than 1,700 images in five minutes. Since Tutankhamun is in such bad shape, the scanner came right to his tomb in the Valley of the Kings, in a specially-outfitted truck.

Analysis of the scanned images revealed that the king had broken his leg just days before he died. Not even the best royal doctors could save him from the infection that likely resulted.

Dr. Zahi Hawass, secretary general of the Egyptian Supreme Council of Antiquities, personally supervised the CT scan of Tutankhamun's mummy. He said, "I believe these results will close the case of Tutankhamun, and the king will not need to be examined again. We should now leave him at rest."

Given the terrible condition of the boy king's mummy, Egyptologists can be forgiven



The interior of King Tut's tomb was beautifully preserved when Howard Carter found it. It gave the world a glimpse into the life—and death—of Egyptian royalty.

for not being sure about Tut's fate. Howard Carter, who discovered Tut's tomb in 1922, was eager to separate the king's mummy from its fabulous gold mask, jewelry, and other treasures. But the ancient glues used in the mummification process gripped tight. Carter broke poor Tut in half, separated his head from his body, and broke the body into more than a dozen pieces. He even took the remains of the king outdoors and lit a fire beneath them to try to loosen the resin glue.

The continued interest in Tut is making for a very active afterlife for him. The boy king can now personally greet visitors to his tomb from his comfortable resting place in an airtight glass case, specially filtered to keep fungi, molds, and microorganisms from growing. Only his face is visible. His broken body is tastefully covered.

art and culture. Sety I was a major builder and patron of Amun-Re. He started the splendid Great Hypostyle Hall at the temple of Karnak, and built many other temples.

He also resumed military actions in Nubia and Syria. His tomb is the largest and finest in the Valley of the Kings. (The Valley of the Kings is the necropolis of the New Kingdom pharaohs and nobles. It is on the west bank of the Nile, across from Thebes.) But his greatest achievement might have been as the father of Ramesses II—Ramesses the Great.

Ramesses II did everything on the grandest possible scale. He reigned at the peak of Egypt's imperial age.

As a young prince, Ramesses II participated in many military actions against the Hittites. Soon after taking the throne, he led 20,000 soldiers against the Hittites in a great battle at Kadesh in Syria. The battle ended without a clear victory for either side. But Ramesses II returned home and declared victory anyway. Other military adventures had similar outcomes. This started getting expensive, and embarrassing, for both sides.

Four statues of Ramesses II stand outside the temple of Abu Simbel near Elephantine. No other pharaoh built so many temples, statues, and obelisks.





CONNECTIONS

Perfume and Cosmetics

Modern women would recognize the routine of a wealthy ancient Egyptian woman. Before going out, she took a bath, washing with a refreshing solution of natron (a drying mineral) and fragrant oil. A cleansing cream made of oil mixed with lime (a mineral power) toned and softened her skin. She applied a custom-made wrinkle-fighting cream.

She rubbed a deodorant made of ground carob onto her body. An edible perfume of natron, cinnamon oils, and a “secret ingredient” from Punt sweetened her breath.

She opened her makeup kit, which was filled with tiny jars made of gold, stone, ivory, and glass in the shapes of animals and birds. They contained powders, oils, creams, and perfumes, scented with exotic ingredients such as cinnamon, myrrh, frankincense, cardamom, wine, and honey. She selected a miniature gold spoon for mixing oils, her carved black kohl stick, several small plates to mix her makeup, and a polished copper hand mirror carved in the form of Hathor, the goddess of beauty.

Using her kohl stick, she applied thick black lines around her eyes and to her eyebrows. She patted her cheeks with powdered red ochre, then mixed a bit of it with oil to make lip gloss. She applied henna (a reddish dye from the rose-scented *loosetrife* plant) to parts of her wig, her feet, the palms of her hands, and her fingernails.

Her servants helped her wiggle into a tight-fitting, pleated linen dress, topped with



These jars held fragrances and cosmetics for high-ranking Egyptian women. Wealthy women took great care with their makeup and hairstyles before they went out.

an embroidered wool shawl. She put on her fashionably long, braided wig, adding a circlet (crown-shaped hair ornament) of gold with tiny gemstone flowers.

From her overflowing jewelry case, she selected gold earrings with dangling beads, several rings (one shaped like the ankh, symbol for life), and a three-row beaded collar of gold, turquoise, lapis lazuli, and amethyst. Finally, she put on five gold bracelets—one on each upper arm and three for her wrists.

At the door, she slipped into delicate leather sandals decorated with fresh flowers. Just before leaving, she placed a cone of scented fat atop her wig. Over the evening, the heat would gradually melt the fat, releasing its scent and running a cooling stream of perfume down her wig, face, and neck.

According to Egyptian records, it was the Hittite king who proposed a peace treaty. Hittite records say it was Ramesses. In any case, flowery diplomatic letters, rich royal gifts, and Ramesses's marriage to a Hittite princess sealed the peace agreement.

Ramesses II was one of Egypt's biggest builders. He completed the temple at Stey's tomb at Thebes, another for himself at Abydos, and the huge temple called the Ramesseum. He added to the temple complexes Karnak and Luxor, and built major temples all over Egypt.

His Great Temple at Abu Simbel was cut into the rocky cliffs near Elephantine. It was dedicated to the gods Re-Herakhte, Ptah, and Amun-Re—but with its four 60-foot-tall statues of himself, it was clearly meant to announce his own magnificence. Nearby, he built a smaller temple to honor his favorite wife, Nefertari, and the goddess Hathor. He built a new city, Piramesse ("Domain of Ramesses") in the Nile Delta.

A total of 14 jubilee festivals were held in ancient Egypt by various kings. Also called *heb-sed* festivals, these national parties lasted for weeks. They were held to confirm the king's health, strength, and fitness to rule. The *heb-sed* included many religious ceremonies and a ritual "marathon run" in which the king ran a course around the temple precincts to show that he was in excellent shape.

Kings held *heb-seds* at different intervals, and some held many more than others. They were generally 10 to 15 years apart during the 64-year reign of Ramesses II. The king was more than 90 years old when he died.

THE BEGINNING OF THE END

When Merneptah, the 13th son of Ramesses II, took the throne, revolt was in the air. Merneptah fought back waves of Libyan invaders, put down rebellion in Nubia, and turned back large groups of refugees from Mesopotamia that were suffering from extreme droughts. (He did send grain to the famine-stricken Hittites.)

Times were equally difficult for the rulers who followed him through the end of the Nineteenth Dynasty, including Twosret, Egypt's fourth reigning queen. Within 25 years after the death of Ramesses the Great, Egypt was threatened by invaders and the disorder became worse and worse. The Nineteenth Dynasty ended in confusion.

The Twentieth Dynasty saw the beginning of the end of Egypt's empire. Ramesses III was the last great imperial pharaoh. When he took the throne in 1279 B.C.E., the world was in chaos. The Trojan War



CONNECTIONS

Holding up the Sky

Even before the dawn of the Old Kingdom, Egyptian architects were using columns to span large spaces and hold up roofs. They were the first builders to do so.

The earliest columns were copies of the palm tree trunks and bound bundles of branches and logs that Egyptians had long used to support the reed roofs of their homes. The first columns made of stone or brick were carefully constructed to copy the sizes, shapes, and textures of the trees that were their models. The earliest builders may have believed that trees held up roofs by some kind of magic, and so thought it wise to copy their forms as closely as possible when using other materials.

Egyptians were conservative in architecture as in everything else. They were not comfortable changing too much from the way things

had always been done. Because they knew trees and bound bundles of plant materials would hold up roofs, it made sense to model all roof supports after these proven forms.

By the Fifth Dynasty, Egyptians were building graceful, elaborate, granite and limestone columns modeled after palm trees, complete with crowns of palm branches. Other columns looked like bound bundles of papyrus stalks, crowned with clusters of buds. Later columns were modeled on the lotus flower, either fully opened with outstretched petals or as buds.

These Egyptian columns found their way, somewhat transformed, into Greek architecture. Whenever you see a modern bank, government building, or mansion with a row of graceful columns in front, thank an ancient Egyptian architect.

and the fall of Mycenae in what is today Greece, and several years of drought, poor harvests, and famine in lands around the Mediterranean, sent waves of refugees on the move.

A group of refugees—collectively called the Sea Peoples—tried again to invade Egypt. They had first appeared during the reign of Merneptah, but had been turned back. This was not an army. These were entire nations—men, women, children, animals, household goods—on the move, desperate for a place to live. They had their eyes on the fertile Nile River Delta.

Their attempts to invade by land were met with fierce resistance, resulting in heavy loss of life. When their ships approached close to Egypt's northern shore, ranks of archers fighting with bows and arrows drove them off with wave after wave of deadly arrows. The survivors of the Sea Peoples were finally chased back to the Near East.

This gave Egypt only a short break from trouble. Invasions of the delta and several waves of Libyan invaders required the king's attention. Ramesses III crushed them all. His reign was prosperous, but troubled. He even had problems in his own palace. A "harem conspiracy," led by a minor queen who wanted to promote her son's fortunes (and her own) plotted to kill the king. The plot was discovered just in time. Most of the conspirators were allowed to commit suicide (considered a great favor) rather than being executed. A few others chose to kill themselves rather than face lesser punishments, such as having their ears and noses chopped off.

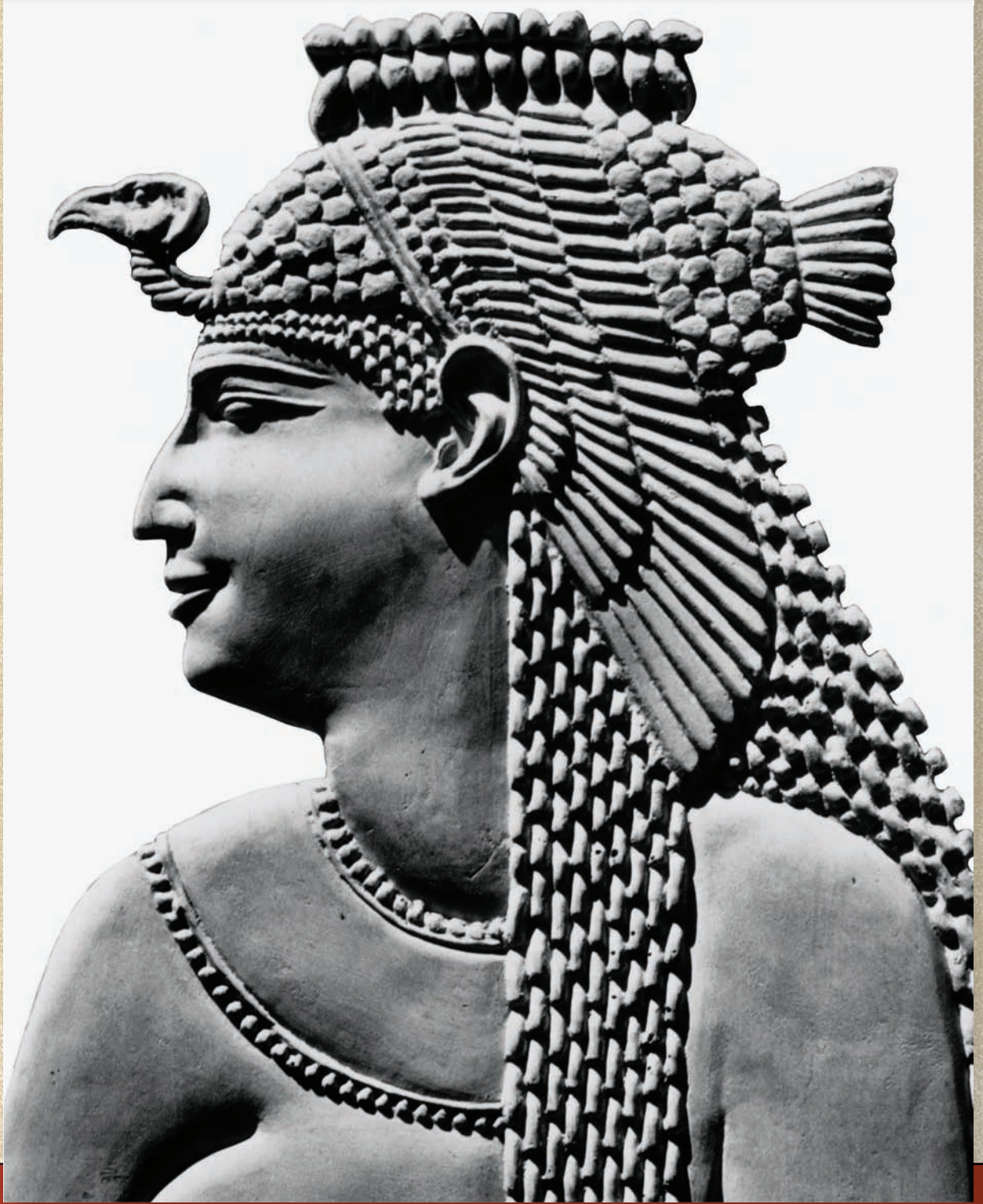
Ramesses III was followed by a long series of kings, also named Ramesses (IV through XI). They are called the Ramessides. The kings from Ramesses IV onward had no family connection with Ramesses the Great. And borrowing his name did them little good.

Little is known about these kings. During the 81 years of their reigns, the empire became more unstable. Trade dropped sharply. Egypt was troubled by civil wars, strikes, widespread lawlessness, and huge price increases.

The empire was swiftly shrinking, which meant less tribute and gifts coming in. The Egyptian economy and the lifestyles of the rich and royal had become quite dependent on all this tribute, which they did not have to work to earn. Troubles around the Mediterranean made trade difficult, meaning even less income.

Nobles were fighting to get their share before it all disappeared, and this conflict was not good for social stability. Nubia, and its important gold resources, was finally lost. Under Ramesses VI, the eastern border was pulled back to the eastern delta. The turquoise mines in the Sinai were abandoned. Some building still went on in Egypt, but as less tribute flowed in from the weakening empire, there was not enough money for building projects.

The powerful priests of Amun-Re at Thebes rebelled against the king. Civil war broke out in Thebes. Finally, Herihor, a high priest of Amun-Re who had risen through the military ranks and had been southern vizier and viceroy of Nubia, declared himself king. His reign occurred at the same time as the last six years of the reign of Ramesses XI, who continued to rule from Pi-Ramesse in the delta. The two kings accepted the other's separate spheres of influence. There was not much Ramesses XI could do about it.



CHAPTER 3

EGYPT'S LONG DECLINE

THE HIGH POINT OF EGYPTIAN CULTURE WAS COMING TO an end. When Ramesses XI died, Smendes, a relative of the Theban priests, became king in the north and founded the Twenty-first Dynasty.

THE THIRD INTERMEDIATE PERIOD

The Third Intermediate Period covers Dynasties 21 through 25, spanning 419 years from 1075 to 664 B.C.E. King Smendes moved his capital from Piramesse to Tanis, in the eastern delta. The kings in Tanis are known as the Tanite kings, and they ruled only the delta. They had good relations with the kings in Thebes.

Both kings recognized each other's rights of succession, respected one another's power, and cemented ties between their families with royal marriages. Both ruling families had strong roots in Libya, and both kings were considered to have the right to rule. But Egypt, with a population approaching 3 million, suffered from the lack of strong central government.

For most of the Twenty-first Dynasty, the Tanite kings in the delta and the Theban soldier-priest-kings in the rest of Egypt were closely related. Sometimes they were brothers. The Theban king Pinedjem married one of the daughters of Ramesses XI. One of Pinedjem's sons, Psusennes I, became the third king of the Tanis dynasty. Two other sons became priest-kings, ruling from Thebes. The daughter of Psusennes I married the high priest of Amun-Re, further linking the ruling families. A great temple at Tanis was dedicated to the Theban gods Amun-Re, Mut, and Khonsu.

OPPOSITE

This Egyptian beauty is Cleopatra VII. She became queen at the age of 17, and was the last ruler of an independent Egypt until the 20th century.

During his 25-year reign at Tanis (which took place at the same time as the Biblical era of David and Goliath), Siamun built many buildings at both Tanis and Piramesse. Also during that time, Egyptian princesses started marrying foreign princes and kings. The custom had long been for foreign princes to marry Egyptians, so this was a reverse in policy.

Because kings were buried with such great riches, their tombs were always a target of robbers. The Theban priest-kings were well aware of tomb robberies in the Valley of the Kings. They worried that the great pharaohs buried there were losing out on eternal life. So they removed many royal mummies from their original tombs (many had already been looted) and stashed them in large groups in well-hidden tombs with better security. They also removed just about all the gold, valuables, and grave goods they found. Then they “recycled” the loot into their temple treasuries, or saved it for their own tombs.

Two of these stashes of royal mummies were discovered in the late 1800s by European explorers. One was discovered in 1881 in a tomb at Deir el-Bahari near Thebes, another in 1898 in the tomb of Amenhotep II in the Valley of the Kings. Dozens of royal mummies—including most of Egypt’s great imperial pharaohs—had been packed into small chambers, side by side, with only the linen they were wrapped in.

Little is known about Psusennes II, last king of the Twenty-first Dynasty. His son, Shoshenq I, founded the Twenty-second Dynasty. It was also known as the Libyan or Bubastite dynasty because the kings of the Twenty-second Dynasty were descendants of Libyan raiders who had invaded Egypt during the reigns of Meneptah and Ramesses III and settled in the eastern delta at Bubastis. They ruled Egypt for 233 years.

Shoshenq I took the title “great chief of the Meshwesh Libyans.” He led a military action against Palestine (he is the ruler Shishak who is mentioned in the Bible). He damaged Solomon’s temple in Jerusalem and looted everything but the Ark of the Covenant. This bold raid restored some of Egypt’s fame as an empire. Shoshenq I was a strong leader. He reunited Upper and Lower Egypt, and kept them together for nearly 100 years.

Despite this, there was plenty of internal conflict. The power of the kings at Tanis weakened, and the north broke up splintering into many small estates that paid little attention to the king. In the south, several small kingdoms arose. By the time Shoshenq III took the throne, Egypt had entered the most confusing period in her long history.

During the Twenty-third Dynasty, Upper and Lower Egypt split apart. Various groups fought over control of the delta. Nine major kingdoms (collectively called the Twenty-third Dynasty) existed at the same time. This seriously weakened Egypt. It was unable to defend itself from the Nubians, who swept north. By the end of the dynasty, at least three or four rulers claimed to be king of Egypt. By the time they understood the threat from Nubia, it was too late.

King Tefnakhte ruled from Sais in the delta during the Twenty-fourth Dynasty. He tried to organize a united force of

Upper and Lower Egyptian rulers to fight the Nubian invasion. The armies of the north met the Nubian army at Herakleopolis. The northerners were forced to surrender, but Nubian king Piankhy allowed them to remain as governors of their cities. A second Sais king, Bakenrenef (also known as Bocchoris) rebelled. The Nubians killed him.

The Twenty-fifth Dynasty was the Nubian dynasty. Nubia was a stable, prosperous state that had completely accepted Egyptian traditions and values. Nubia had been a colony of Egypt for a long time, and Nubians were initially forced to work in mines and treated like slaves. Over time, however, Nubians came to treasure ancient Egyptian culture. When Nubians came to power, they thought of themselves not as invaders, but as restorers of the old order.

The Nubian kings took the titles of great New Kingdom pharaohs. They also maintained traditional Egyptian religion and culture. For 104 years, they ruled Egypt from Memphis and Thebes. They worshipped Amun-Re, rebuilt and repaired neglected temples and monuments, and built many new temples. Just like the ancient pharaohs, the Nubian kings built pyramid tombs (much smaller and steeper than those at Giza) in their homeland.

When the Nubian pharaoh Taharqa became involved in affairs in Palestine, though, it angered the Assyrians. They were a powerful empire

Nubian Rebirth

Nubia also maintained strong cultural ties with central Africa. After the Aswan High Dam was built in 1965, the Nile's annual flood built up behind the dam. By 1971, much of ancient Nubia was flooded forever beneath Lake Nasser. It seemed to mark the end of Nubian culture.

However, instead of fading into history, the Nubians moved to Cairo, the capital of modern Egypt. They brought their culture, language, dress, and music with them. Nubian music, with electric instruments added to traditional ones, has taken Egyptian pop music by storm.

IN THEIR OWN WORDS

A General's Boast

This inscription was found on a statue of the general Psamtik. It dates from the Saite Period (the Twenty-sixth Dynasty). It is typical of the boastful language found in tombs and on statues of the nobles of ancient Egypt. They were all eager to emphasize how virtuous and important they were, how close they were to the king, and how much the king relied on their advice and help. When Psamtik says "His priests, His city" he is talking about the king's priests and city.

The nobleman, prince, governor of Upper Egypt, head of the transferal of offerings, supervisor of the Gate of the foreign lands of the South, governor of the nomes of the South, companion and first great favorite of the lord of the Two Lands, king's confidant having precedence over [all the other nobles of] Upper Egypt]. . . .

I have rewarded His priests, I have rewarded His prophets and I have gladdened all His workers. I have brought improvements to His city, accompanied by my faithful servants of Upper Egypt with their boat. . . . I have erected a double gate, the wall of which was very straight and which was enlivened on all its sides by numerous trees; I have caused this city to be surrounded by a canal built with bricks, when it found itself with an overflowing neighborhood, and the whole of Upper Egypt was envious of it.

(Source: Clère, Jaques J., "Autobiographie d'un général gouverneur de la Haute Égypte à l'époque saïte," *Le Bulletin de l'Institut français d'archéologie orientale* (Autobiography of a governor general from Upper Egypt in the Saite era, Bulletin of the French Institute of Oriental Archaeology), Vol. 83, 1983: 85–100.)

in the Near East that had control of the region. During a half-century of power struggles and open warfare, the Assyrians attacked Memphis and Thebes, looting the fabulous treasuries of the Amun-Re temples. The Nubians were driven back to their historical borders south of the first cataract. Thereafter, their contacts with Egypt were limited to trade.

THE TWENTY-SIXTH DYNASTY

Aided by Greek mercenaries, Psamtik I of Sais took the throne, founding the Twenty-sixth Dynasty (also known as the Late Period). For the next 139 years, the Saïtes ruled over a relatively orderly, prosperous Egypt. According to historian Herodotus, Egypt at the time consisted of more than 20,000 towns.

The kings of the Twenty-sixth Dynasty used a combination of force and diplomacy to reunite Upper and Lower Egypt. They hired Greek

mercenaries for the army, and oversaw the development of Egyptian naval power. The Assyrians had their own problems and left Egypt alone. Most of Egypt's eastern allies were being conquered by the Persian king Cyrus the Great.

The Saites carried on a vast trade around the Mediterranean. King Necho II built a canal connecting the Nile to the Red Sea—2,500 years before the modern Suez Canal connected the Mediterranean and Red Seas. They welcomed foreign traders, and built towns where foreigners could live as national communities. They set up a kind of “free trade zone,” Naukratis in the delta, where Greek traders enjoyed many privileges and rights.

The Saite dynasty was an era of nostalgia—looking back fondly at the past. Saite kings restored ancient religious, artistic, and cultural traditions. They brought back the Pyramid and Coffin Texts—magical charms for the dead. They built tombs at Giza and Saqqara, to be near the ancient kings. Animal cults became extremely popular.

The Saite kings were well aware of the wealth and power of the Theban priests of Amun-Re, and of their history of declaring themselves to be kings. To secure their power over these powerful priests, the Saite kings revived a New Kingdom custom of naming the king's oldest daughter as God's Wife of Amun. The old title was an honor but did not really mean much. However, the new one packed real power. The princess lived at the temple of Amun-Re at Karnak. She was worshipped as a near-goddess. She performed religious rituals and controlled vast wealth and great estates. She was not allowed to marry, but she could adopt an heir. Holding this post gave the king's daughter enormous personal wealth, power, and influence. It also kept the throne safer for her father, because the Amun-Re priests all answered to her.

But once again, winds of change were blowing around the Mediterranean. The Babylonian Empire came to regard Egypt as its enemy. Babylon defeated Egyptian forces in the Near East and took control of Egypt's foreign territories. Then, the Persian king Cyrus II (ca. 575–529 B.C.E.) conquered the Babylonians.

In 525 B.C.E., the inexperienced Egyptian king Psamtik III faced the Persian army of Cambyses II (d. 522 B.C.E.), the king of Persia and son of Cyrus. They fought at Pelusium, on the eastern frontier. Psamtik III was defeated and he fled back to Memphis. But the Persians captured him and took him prisoner. The Twenty-sixth Dynasty collapsed in confusion.

Animal Cults

Animal cults were always important in Egyptian religion. This fascinated some observers, such as Herodotus, but horrified others. “Who does not know what monsters are adored by demented Egypt?” wrote Roman poet and satirist Juvenal in 127 C.E. in his *Fifteenth Satire* (as quoted in John Manchip White’s *Ancient Egypt: Its Culture and History*).

The Egyptians did not actually worship animals. They worshipped the god or goddess who lived in the animal’s form. Many of these gods were pictured with the animal’s head on a human body.

One animal cult that was widely popular among all classes of people centered on the bull. In different parts of Egypt, the sacred bull was known by different names, and even represented different gods. The Apis bull was the god Ptah at Memphis; the Mnevis bull was the god Re at Heliopolis; the Buchis bull was the god Montu at Luxor.

Vast cemeteries of animal mummies highlight the popularity of animal cults. Most date to the Late Period (Dynasties 26 through



Hemen was a local falcon god who was worshipped in Hefat. He was sometimes shown slaying a hippopotamus—a symbol of chaos. Many Egyptian gods took on animal forms.

32) and the Ptolemaic era. Millions of cats, bulls, ibises, and crocodiles were mummified and buried with great ceremony. A 2003 exhibit in Cairo included two limestone coffins for shrews (a type of rodent). They were covered with gold and topped with tiny golden shrews.

Killing a cult animal, even by accident, often brought heavy penalties—even death.

THE END OF NATIVE RULE

Cambyses II had a reputation as a cruel king. Fortunately, he only ruled Egypt for three years. He was followed by Darius I (ca. 558–486 B.C.E.), a kinder, gentler Persian. Darius supported Egyptian animal cults and added to temples. He also improved the canal between the Nile and the Red Sea.

Still, the Egyptians were extremely unhappy about being part of somebody else's empire. After 120 years, the Egyptians threw off Persian rule, regaining their independence for 67 years.

The Twenty-eighth Dynasty had only one king, and not much is known about him. His name was Amyrtaeos, and he ruled for 10 years. Chaos in the Twenty-ninth Dynasty created a situation where it was relatively easy for someone else to come in and take control. Hakor, who had no royal connections, grabbed the throne. Hakor ruled for 12 to 19 years and completed many building and restoration projects. He turned back a series of Persian attacks, with help from Greek mercenaries.

The Thirtieth Dynasty beat back an attack by combined Persian and Greek forces. Nakhtnebef I (Nectanebo I) enjoyed a stable, 19-year reign. He restored temples all over Egypt.

The 19-year reign of his son Nakhthoreb (Nectanebo II) saw a return to stability, the old gods, and traditional values. But Nakhthoreb was the last native Egyptian to rule Egypt for 2,300 years. (The next was General Mohammed Naguib in 1952.)

In 343 B.C.E., Persian ruler Artaxerxes III (ca. 425–338 B.C.E.) conquered Egypt again. He sent Egyptian sculptors and artisans to decorate palaces in the Persian capital, Persepolis. Again, the Egyptians were unhappy under foreign rule. They longed for rescue.

In 332 B.C.E., Mazaeus (ca. 385–328 B.C.E.) was the governor (the office was known as *satrap*) of Egypt under the Persian king Darius III (d. 330 B.C.E.). He opened the gates of Egypt to Alexander the Great. Egypt welcomed Alexander as its savior—despite the fact that Alexander was Macedonian.

Egypt's Greek merchant community had long carried out wide-ranging, prosperous trade from their base at Naukratis in the Delta. Greek mercenaries, rising through the ranks, had modernized the Egyptian army and introduced new strategies and tactics. By the time of Alexander's arrival, old Egyptian traditions were already giving way to Greek culture.

Alexander was a brilliant military leader who set out to conquer the world. He quickly conquered the entire Persian Empire. But he was not a cruel ruler, and he often improved things in the lands he conquered. He used common social and economic concerns to unite people of different cultures and religions. At the same time, he established new cities to spread Greek culture.

Alexander, at age 24, was already master of an empire when he reached Egypt. His first stop was the Oracle of Amun. An oracle is a person through whom a god is believed to speak. According to some

Egypt surrendered to Alexander the Great in 331 B.C.E. Alexander remade Egypt in the Greek model. He is shown here visiting the Temple of Amun.



accounts, the Oracle of Amun said Alexander was Amun's son and Egypt's rightful king.

Alexander was crowned pharaoh at Memphis with traditional religious splendor. He began the Thirty-second Dynasty. Alexander showed his respect for the Egyptian gods and goddesses by repairing and restoring many temples, including the one at Luxor.

Alexander spent six months in Egypt setting up his new government. He appointed a viceroy (someone who rules a colony on behalf of a king) and six governors. He changed the Egyptian finance, tax, and bureaucracy systems to follow Greek models. He founded the new city of Alexandria, located on the Mediterranean coast at the Nile's west

mouth. It was the ideal spot for it to become the commercial hub for the entire eastern Mediterranean. This Greek city became Egypt's new capital and a center of Greek learning and culture.

Alexander left troops stationed at Memphis and at Pelusium on the eastern frontier and put his own officers in charge of the Nile fleet. Then he left to conquer the rest of the world. But he became ill and died in 323 B.C.E.

Alexander's empire was divided among his top generals. Ptolemy (372–283 B.C.E.), one of the most trusted of his generals, got Egypt. For a time, Alexander's half-brother and then his son were named as the rulers of Egypt, although Ptolemy was actually in charge. Then, in 305 B.C.E., he was crowned Ptolemy I—the beginning of the Thirty-second (Ptolemaic) Dynasty.

Ptolemy's first move was to “kidnap” Alexander's body as it passed through Egypt on its way to Greece for burial. The Egyptians considered Alexander a god, and Ptolemy made sure he was buried at Alexandria. This gave Ptolemy tremendous religious and political influence. To further strengthen his position, he married the daughter of Nectanebo II, the last native Egyptian king.

Under the Ptolemies, Egypt looked to Greece for its culture. The new upper class was Greek. The rulers publicly declared their respect for Egyptian religion and traditions, and they appeared in paintings and statues with Egyptian royal dress and symbols. But to the outside world they were Greek rulers, appearing on coins in Greek dress and with Greek symbols.

The Ptolemies were supporters of the arts. They expanded and funded the Library at Alexandria, attracting scholars from all over the world. The temples they built



CONNECTIONS

Measuring Land

For half a century, from 247 to 195 B.C.E., the Greek scientist and geographer Eratosthenes (276–194 B.C.E.) was keeper of the great Library at Alexandria. The library housed thousands of ancient Egyptian documents written on papyrus scrolls. Eratosthenes took advantage of the opportunity to examine centuries of Egyptian land use records, carefully recorded by generations of scribes.

Very early in their history, the Egyptians had developed sophisticated techniques for accurately measuring large areas of land. This was necessary to reestablish property boundaries after the annual inundation. These techniques, developed and improved upon over time, eventually formed the basis for the maps Eratosthenes used to calculate the length of a degree of latitude. This is one of the foundations of modern cartography (mapmaking).



This carved cup celebrates the very influential reign of the Ptolemies. These descendants of Alexander the Great's top general in Egypt were eventually defeated by the Roman Empire.

at Dendera, Edfu, Philae, Esna, and Kom Ombo still draw tourists today. They built many new cities and towns. The Pharos of Alexandria, an enormous lighthouse and one of the Seven Wonders of the Ancient World, was completed by Ptolemy II.

Under the Ptolemies, Egypt was prosperous and stable. It exported huge quantities of papyrus and grain all over the Mediterranean. But as a family, the Ptolemies were united mainly by the same names and bad behavior. The Ptolemies loved high

living a bit too much. Ptolemy X was so fat that he could not walk without help.

The Ptolemaic royal court was a complex, ongoing soap opera of plotting servants, corrupt officials, double-crossing advisors, and backstabbing brothers and sisters. There were conspiracies, rivalries, and murders.

It is difficult to sort out the players because all the kings were named Ptolemy and most of the royal women were named Cleopatra, Berenice, or Arsinoe. Like many kings before them, some Ptolemies married their sisters. However, they did it for political reasons rather than religious ones.

Rulers around the region took advantage of Egypt's internal disorder to grab her territory and naval bases. Grain grown in Egypt was used to feed the people of Rome, and Egypt became a rich but powerless part of Roman power struggles.

The last Ptolemy, Cleopatra VII (69–30 B.C.E.), became queen at age 17. She was a talented, ambitious woman. She is said to be the only one of the Ptolemies who could understand and speak Egyptian (the others spoke Greek). Her older brother, whom she was scheduled to

marry, tried to kill her instead (this was typical Ptolemaic behavior). She fled to Rome, who had become the dominant power in the Mediterranean and returned with an army. Julius Caesar supported her claim to the throne. He also fell in love with her. Cleopatra and Caesar had a son. She then married her younger brother, who became king.

When Julius Caesar died, Cleopatra took up with Marc Antony (ca. 83–30 B.C.E.). He was a Roman general and politician who was engaged in a power struggle with Caesar's heir, Octavian (the future emperor Augustus Caesar). At the Battle of Actium, off the coast of Greece in September, 31 B.C.E., Octavian (63 B.C.E.–14 C.E.) defeated the navy of Marc Antony and Cleopatra.

In August, 30 B.C.E., Octavian entered Egypt and declared it a part of the Roman Empire. Rather than surrender, Cleopatra committed suicide. Dynastic Egypt died with her.

Octavian ran Egypt as his personal estate. He sold Egyptian grain to feed the Romans' endless appetite. Roman Egypt was extremely prosperous and productive, and the population grew rapidly. Several Roman emperors appear in Egyptian clothes on monuments within Egypt, but it was just a political fiction.

Major changes lay ahead. The spread of Christianity wiped out most traces of the old Egyptian religion. The Coptic language evolved from earlier Egyptian. The Greek alphabet, with a few extra letters, replaced hieroglyphics



CONNECTIONS

Scientific Medicine

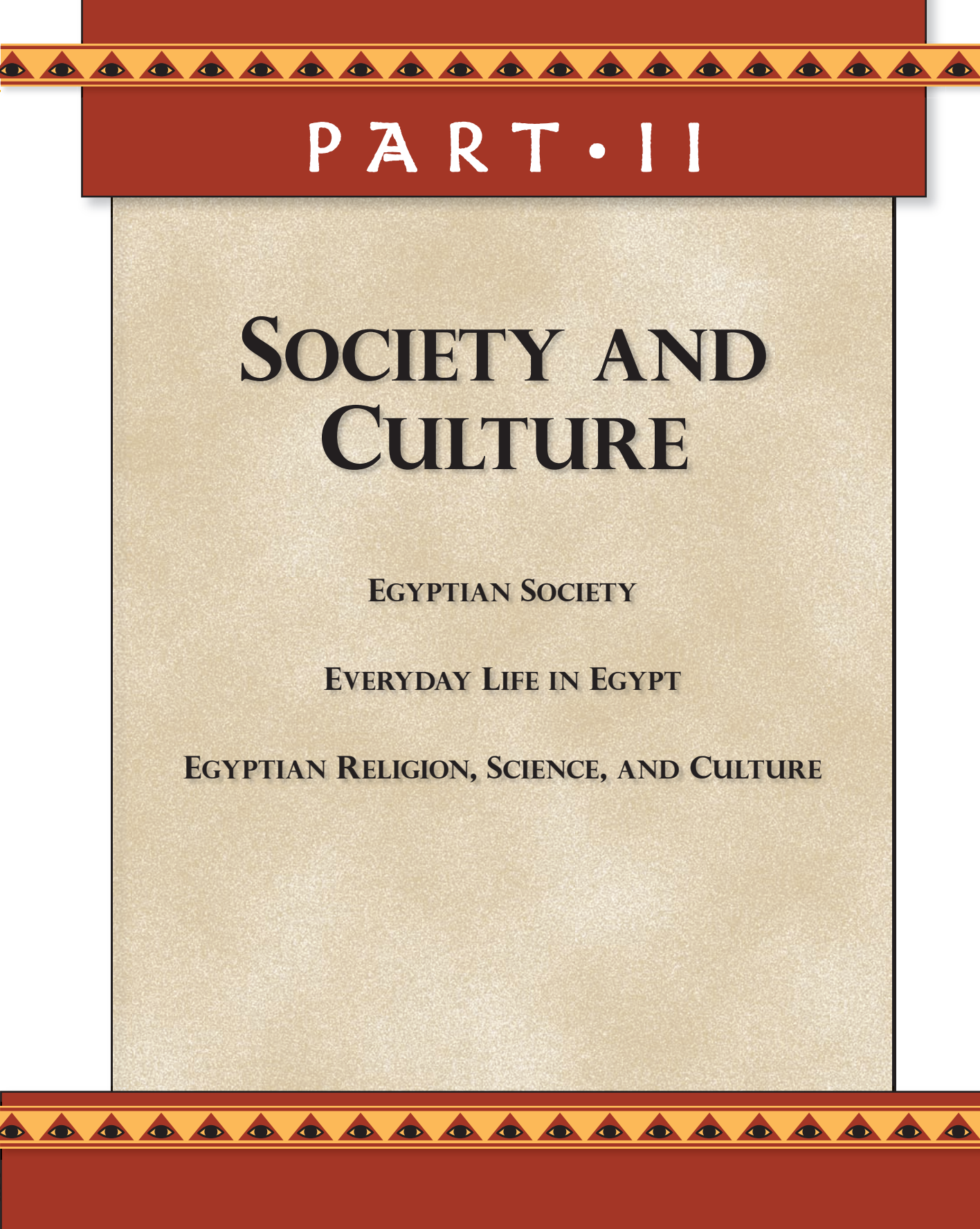
Early Greek physicians and scientists had a great curiosity about human anatomy and the inner workings of the human body. But Greek religious and cultural traditions did not permit them to systematically dissect (cut open and examine) corpses. So they traveled to Egypt to observe mummifications.

Egyptian physician-priests had been mummifying human bodies for thousands of years. But because they looked at corpses as religious, not scientific, things, they still had very little knowledge about human anatomy. Their goal was to preserve the body, not to understand it. In a short time, visiting Greek physicians learned more about the structure and workings of the human body than Egyptian physician-priests had learned in thousands of years.

At the same time, the visiting Greeks took careful note of the more practical and effective treatments offered by Egyptian physicians: setting broken bones; the use of bandages, compresses, and splints for injuries; simple surgeries; and potions and prescriptions that actually worked. These Greek observations of Egyptian medical knowledge—and their ability to separate the merely magical from the reliable and scientific—helped form the basis of Western scientific medicine.

and hieratic writing disappeared. The last known hieroglyphic inscription was carved on a temple at Philae in 394.

Egypt remained a territory of the Roman Empire, and then the Byzantine Empire, until Arab general Amr ibn el-As conquered the area in 641. The Arabs introduced the Islamic faith to Egypt. Although a small, strong Christian community survived (they became known as Coptic Christians), Egypt became, and remains, an Islamic nation with Arab cultural traditions.



PART • II

SOCIETY AND CULTURE

EGYPTIAN SOCIETY

EVERYDAY LIFE IN EGYPT

EGYPTIAN RELIGION, SCIENCE, AND CULTURE





CHAPTER 4

EGYPTIAN SOCIETY

THE EGYPTIANS WERE PRACTICAL, TRADITION-LOVING, conservative, orderly, and tolerant. They organized the world into categories, with clear outlines and boundaries. They were suspicious of the unknown and avoided taking unnecessary risks. Their government was highly centralized and heavily bureaucratic. They were dedicated record keepers. They loved peace and order, and preferred peace to war. They wanted to live and let live.

Although much of what we know about the ancient Egyptians comes from tombs, temples, and mummies, death did not dominate Egyptian life. They loved the good life—festivals, music, color, ornament, beer, wine, and sweets—and simply wanted to make sure they could also have these things in the afterlife.

The Nile Valley is a long corridor linking Africa with the Near East. The Egyptians reflected ethnic influences from both regions. Some had dark skin and features typical of the peoples of central Africa. Others were lighter or olive-skinned, with Mediterranean or Near Eastern features.

They had no notion of “race” based on skin color or appearance. Since the earliest days when the region was settled, easy travel up and down the Nile ensured that people from different regions and with different ethnic backgrounds mixed and intermarried. Travelers and invaders also intermarried and intermingled with the local people.

The Egyptians did make one major distinction: There were the people of Kemet, who spoke the Egyptian language and followed Egyptian religion and customs (“us”); and the people who did not (“them”). Those people were considered misguided and inferior.

OPPOSITE

Egyptians believed that the goddess Ma’at played an important role in maintaining the balance of order and justice. Her symbol was an ostrich feather, here stuck into her headband.



Cats were revered by the Egyptians because they were so useful. By killing rodents and other pests, cats protected the food supply, kept the home cleaner, and enhanced family health. They also represented their own *ma'at*—a balance between fierceness and gentleness.

DIVINE BALANCE

The guiding principle of Egyptian society was *ma'at*, which means balance, rightness, order, justice, truth, harmony, good behavior, and keeping things the way they have always been. The stability and predictability of the Nile River contributed to this world view.

In nature, *ma'at* was the rising and setting of the sun, the orderly changing of the seasons, and the annual inundation. In daily life and business, *ma'at* was fairness and justice. In government affairs, *ma'at* meant following traditions and doing things the way they had been done before. In religious matters, *ma'at* meant living a good life, honoring the gods and goddesses, and being tolerant. Everyone, even the king, was expected to live by *ma'at*.

Ma'at was also the name of the goddess of balance and order. She, and the idea of *ma'at*, were sometimes associated with the cat (*mit* or *miit*), because of the balance between fierceness and gentleness the Egyptians saw in cats.

The opposite of *ma'at* was *isfet*—chaos, mischief, disruption, and disorder—represented by the god Seth. He was associated with the red lands of the desert.

Egyptian society was like a pyramid. At the top, set apart like the golden capstone on the Great Pyramid, was the king. At the broad base of the social pyramid were peasants, who made up 80 percent of the population. In between were priests, government officials, artisans, tradesmen, and soldiers.

Egyptian society consisted of a wealthy, privileged upper class, masses of very poor peasants, and (after the Middle Kingdom) a small middle class of artisans and professionals. The wealthiest families enjoyed diets, clothing, possessions, lifestyles, pleasures, and conveniences that the poorest people could not even imagine. Yet even the poorest Egyptians had advantages not dreamed of by peasants in other

parts of the ancient world. Compared to other ancient lands, Egypt was lucky, healthy, and prosperous.

THE KING AND HIS PALACE

At the top of the pyramid were Egypt's kings, who were also viewed as gods. They were responsible for the country's spiritual and material well-being. As the living example of the god Horus, the king battled cosmic forces. He upheld *ma'at* against *isfet*. Everything he said was law. Justice in Egypt meant "what the king loves." Wrongdoing was "what the king hates."

As chief priest and fertility symbol, the king was responsible for the prosperity of the land, the success of crops, the annual, moderate inundation of the Nile, and the daily rising and setting of the sun. He was chief rainmaker and water-finder. His coronation took place at the beginning of *akhet*, the inundation season, to symbolize his power over the river. As military leader, he had to keep Upper and Lower Egypt united and content, and protect Egypt from enemies and invaders.

The king owned everything—legally speaking, at least. All land, resources, animals, crops, people, every ounce of gold, every jar of beer, and every mud-brick in every peasant's hut were technically the king's. He held absolute power over life and death.

Everything the king touched—his clothing, crowns, jewelry, tools, food, sandals, beer mug—was blessed with magic rituals and reserved for his use alone. Much of his time was spent performing magical and religious rituals to keep the universe running properly. His performance of these rituals magically activated similar rituals performed by lesser priests.

The palace, called *per-aa* (which means "great house"), was a group of residences for the king and his family, harem, friends, personal staff, and government officials. It was also the seat of the central government and the military headquarters. It included a major temple with its own priesthood. Many kings kept two *per-aa* (in Upper and Lower Egypt) and also many smaller palaces.

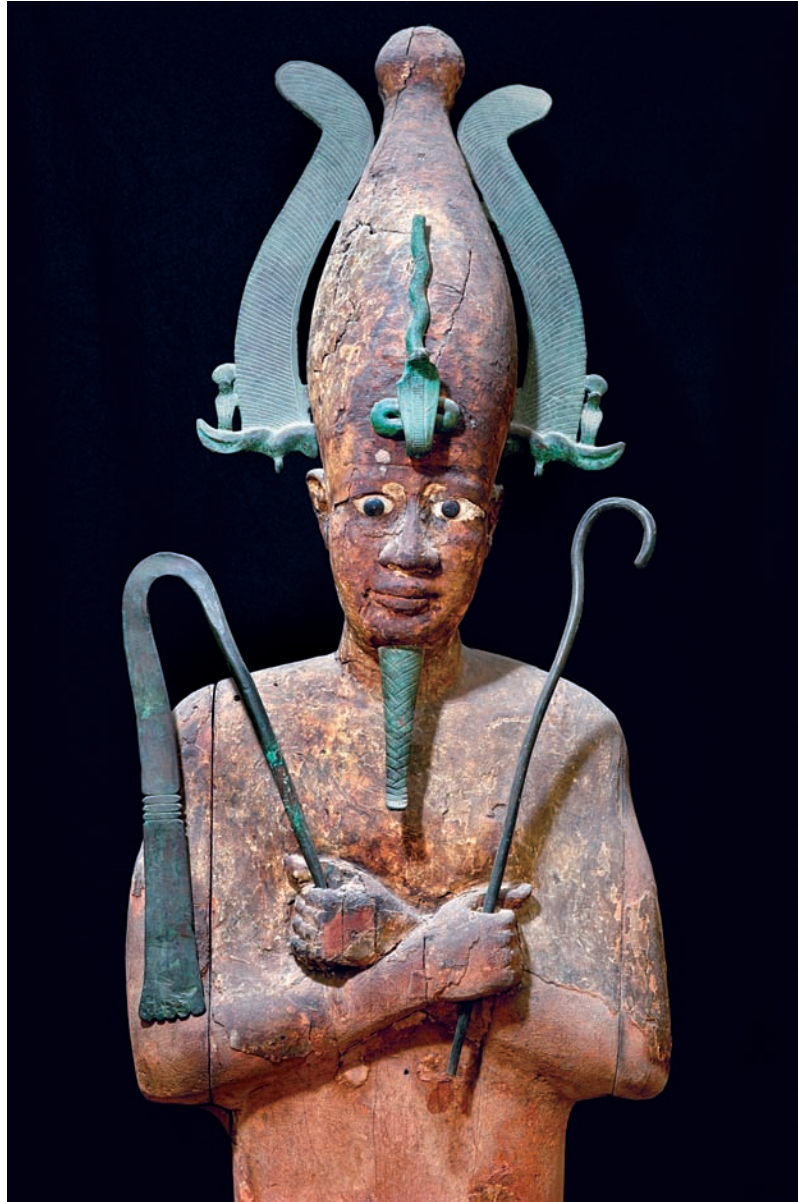
The *per-aa* was a place of luxury, beauty, and ceremony. No effort or expense was spared to impress visitors. Everything the king did followed strict guidelines. He was constantly surrounded by officials, priests, people of the royal court, visitors, and favor-seekers.

The King's Symbols

The king's royal dress included many symbolic items.

- The double crown (*sekhemty*) combined the crowns of Upper and Lower Egypt.
- The false beard, woven of plant stalks, symbolized divinity. Even female kings wore it.
- A bull's tail attached to the back of a king's kilt (a kind of skirt) gave him magical protection from the behind.
- The sacred *uraeus*, a spitting cobra, circled the king's crown or headdress, symbolizing his role as protector of Egypt.
- The protective falcon (the god Horus) encircled his head or stood behind him.
- The shepherd's staff, carried in the left hand, symbolized the king's gentleness, persuasive powers, and love for his people.
- The flail (a small whip), carried in the right hand, symbolized the king's power to command, showing that he was fierce, fearless, and all-powerful.

This statue shows several of the marks of a king, including a false beard, a flail, and a shepherd's crook.



Many favorites and officers of the court and their families and staffs lived at *per-aa* at the king's expense. These Honored Ones, as they were known, were granted special favors: tombs near the king's and fabulous grave goods (linen, oils, wood for coffins, stone for sarcophagi). In the Old Kingdom, these honors meant they would join the king in eternal life—an extremely rare privilege.

The posts that had the highest rank were King's Friend and Unique Friend. Other top posts were Lordship of the Secret of the Royal House (keeper of the crown jewels) and Lordship of the Secret of all the Royal Sayings (issuer of invitations into the king's presence). The Director of the King's Dress supervised a large staff, including the Valet of the Hands, Director of Oils and Unguents (lotions), Keeper of the King's Wigs, and Groom of the Bedchamber. Each supervised large staffs.

The king chose his heir from among his sons—usually the son of his chief wife. If he had no sons, the king might choose a senior official who had married a princess. Many princes were prepared to become king, just in case. (Although some went into military or religious service, particularly if an heir was named early on.) They studied astronomy, mathematics, civil engineering, architecture, and magical-religious rituals and spells.

Princes participated in hunting expeditions, military tournaments, and sporting competitions. They were expected to show exceptional talent and ability. Some princes ruled as coregents (co-kings) with their fathers, although Egyptologists do not agree on how many kings really had coregents. Many princes spent time in the army and took part in military campaigns.

While still a child, the crown prince (the one selected to be heir to the throne) was generally married to a sister, half-sister, or cousin. This kept the royal bloodlines “pure” and honored the god Osiris and his sister-wife, the goddess Isis.

ROYAL LADIES AND HAREM WOMEN

The king's mother (known as the “great royal mother”) and the king's chief wife (known as the “great royal wife”) were associated with the goddess Hathor. They were considered to be almost goddesses. A few women ruled as kings, and others ruled as coregents because the king was too young to rule. Royal ladies had expensive funerals, tombs, and grave goods, though not as elaborate as those of kings. Princesses received some education, and sometimes they learned to read and write.

Wealthy and royal ladies managed several large estates and supervised a lot of servants. Especially during the imperial age, they enjoyed the best the world could offer. They scented themselves with expensive imported perfumes, sipped the finest wines, and dined on fancy foods. They owned



In a scene from her tomb, Princess Nefertiabet (daughter of Khufu) wears a panther-skin dress and sits on a stool with bull's feet. She stretches one hand toward a table where there are slices of white bread with a golden crust. These elements show the dead person's nourishment in the afterlife.

huge collections of wigs and jewels. Their clothing chests overflowed with fine things, from royal linen dresses so light you could see through them to pleated and embroidered gowns made especially for them.

Particularly during Egypt's imperial age, kings kept harems of hundreds of wives. Many were brought from foreign lands (along with their many servants and attendants) to firm up diplomatic ties with peoples in distant parts of the empire.

Talented female singers, dancers, and musicians were often added to the royal harem to entertain at court.

A harem woman might not see the king very often, even though she was married to him. Still, there was always a chance he might choose her as a favorite. And there was a small chance that the king's great wife would not give birth to a son. If that happened, and the son of a harem woman would be promoted to crown prince. Whatever her origin, a woman whose son became king became a queen herself—the great royal mother.

NOBLES AND PRIESTS

A few hundred privileged families controlled most of Egypt's wealth. Wealth meant land. The king (who owned everything) granted large estates to his relatives, friends, and favorites. These large estate-holders paid no taxes, but they collected heavy taxes from the peasants on their estates. They became fabulously wealthy "little kings." Nobles had a moral duty under *ma'at* to care for the poor, but they were not legally required to do so.

Priests performed daily religious-magical rituals for the dead, and for gods and goddesses. These very involved rituals were based on ancient traditions and had to be carried out exactly the same way every time. If the king—Egypt's chief priest—did not perform the proper daily rituals, the rituals performed by ordinary priests were worthless.

The dead and the gods required daily nourishment. Rituals included offerings of food and drink, sacrifices of animals, and magical spells. One important ritual in every temple was the daily washing, feeding, and clothing of the statue of the god or goddess.

Individual priests had specialties such as teaching, record-keeping, caring for the dead, conducting funerals, sacrificing animals, or caring for the god's statue. They paid no taxes and were supported by the government. All but the smallest temples included places to store grain, libraries, healing centers, and schools. Temples also employed staffs of artisans, craftsmen, scribes, butchers, bakers, herdsmen, cooks, guards, doorkeepers, and janitors.

In large temples that were dedicated to the major gods, priests controlled enormous wealth. At the height of their prosperity under Twentieth Dynasty king Ramesses II, the priests of Amun-Re at Thebes controlled 90,000 peasants, thousands of acres of farmland, 500,000 head of cattle, 400 orchards (where fruit trees grow), 80 ships, and 50 workshops. The Amun-Re temples received all the taxes from 65

IN THEIR OWN WORDS

Legal Documents to Transfer Property

The town of Kahun was built to house the laborers who built the pyramids of the kings of the Twelfth Dynasty. Among the enormous number of documents recovered from the site are medical papyrus scrolls, account books, works of literature, and legal documents such as this property transfer. It shows that Egyptian women could inherit property.

The deed of conveyance that was made by the wab-priest in control of the phyle of Sopdu, Lord of the East, Wahu. I am making a conveyance for my wife, the woman of East Side, Shefet, daughter of Satsopdu, who is called Teti, concerning everything which was given to me by my brother. . . . It is she who shall give it to

any of her children who she prefers which she has borne me.

As for my tomb, I shall be buried in it with my wife, and no person shall be allowed to interfere with it. Now, as for the house that was built for me by my brother, the trusty seal-bearer Ankhren, my wife shall live there and no one shall be allowed to put her out upon the land thereof. It is the deputy Sabu who shall act as guardian to my son.

(Source: "The Kahun Contracts," The Ancient Egyptian Literature Site. (From *Ägyptische Lesestücke zum Gebrauch* by Kurt Sethe; translated from the German by Zoe Jackson.) Available online. URL: http://www.geocities.com/per_medjat/literature.html. Accessed January 23, 2008.)

IN THEIR OWN WORDS

Always a Party

With more than 2,000 gods and goddesses, there was always an excuse for a festival in Egypt. Some festivals lasted weeks, attracting thousands of visitors. The Greek historian Herodotus witnessed a festival honoring the cat-headed goddess, Bastet, at her sacred city, Bubastis. He wrote about it in *The Histories*, Book 2.

[T]hey come in barges, men and women together, a great number in each boat; on the way some of the women keep up a continual clatter with castanets and some of the men play flutes while the rest, both men and women, sing and clap their hands. . . . When they reach Bubastis they celebrate the festival with elaborate sacrifices and more wine is consumed than during all the rest of the year. The numbers that meet there are, according to native report, 700,000 men and women. . . .

These wild religious festivals were also long holidays from work. Priests distributed food, beer, wine, and other luxuries. Then, as now, free food and drink were always welcome.

(Source: Herodotus, *The Histories*. New York: Penguin Classics, 1972.)

towns and cities in Egypt and its empire.

Most priests worked part-time at small temples of local gods or goddesses. As Egypt's most educated class, priests were doctors, mummy preparers, astronomers, mathematicians, architects, librarians, teachers, and scribes. They also ran the temple schools.

While on duty, a priest had to be "pure." This meant shaving his head and body and cleaning his mouth with natron (a drying mineral), among other ritual practices. There were many things he was not allowed to do and many things he was required to do. While performing rituals, priests wore leopard skins, masks, wands of office, and elaborate jewelry.

Women were not allowed to become priests. However, they could be professional mourners (people who express sadness) at

funerals, acting out the grief of the goddesses Isis and Nephthys at the death of Osiris. They could be sacred prostitutes in the temples of the fertility god Min. They could be temple musicians, shaking the sistrum (a sacred musical rattle) or playing instruments during ceremonies. The word "priestess" generally meant a temple prostitute or a musician. Women also helped take care of their family cults by bringing offerings to the dead or burning incense at tombs.

GOVERNMENT OFFICIALS

The vizier, or *tjaty*, was the king's top government official. He was the king's eyes and ears, his right-hand man, his enforcer, and his chief

advisor. The vizier enjoyed enormous personal wealth, prestige, and power, but he also carried heavy burdens of responsibility.

He consulted with the king every day about major issues and decisions. He planned the king's schedule, hired and fired royal household staff, and supervised the king's bodyguards. As manager of all the official records, he inspected and approved government documents, issued receipts from royal storehouses and granaries, and sent out palace messengers and diplomats. As acting chief justice of the courts, he judged arguments over land. He oversaw the cattle census.

Every few months, the vizier toured the country. He inspected canals, reservoirs, and dams. He supervised cutting down trees and building ships. He made sure the border forts were well-supplied and secure. He organized defenses against border raids. No wonder Rekhmara, vizier of Eighteenth Dynasty king Tuthmosis III, was known to wake up before dawn and wander the streets of Thebes!

The vizier supervised a personal staff of scribes, assistants, couriers (people who carry messages), guards, and stewards (people who manage a household or property). Many kings had two viziers—one for Upper Egypt and one for Lower Egypt. In the early dynasties, the vizier was usually a relative of the king. The job could be passed from father to son, but only in cases

Random Access

The Egyptians kept records about everything. They produced millions of papyrus documents. Only a tiny, random selection has survived, mostly by chance. The papyrus records that survived were preserved by the hot, dry climate in airless tombs, or were stored in sealed clay jars. Grave robbers ignored papyrus scrolls, or tossed them into trash heaps, because they were not considered valuable.

Many papyrus scrolls that survived unharmed until the 1800s were damaged or destroyed by early explorers, who did not realize how fragile or valuable they were. Adventurers tore apart tombs looking for gold and treasure. Papyrus could not be sold, so it was tossed aside.

Papyrus often crumbles to pieces when exposed to air and moisture, so many ancient records vanished soon after they were uncovered. Others were lost in transit or damaged by rough handling. Only a few early explorers recognized the historical value of these papyrus documents.

Modern scholars, called *papyrologists*, piece together and study the surviving papyrus pieces. They treasure every scrap of information from these rare, random records. Egyptian scribes would be amazed to find their wine sales receipts and cattle counts, their records of beer jars and grain harvests, their inventory lists and memos, their notes from boring diplomatic meetings, preserved as treasures in libraries and museums.

of ability and merit. Kings were advised to appoint only very rich men as viziers, because they were less likely to be tempted by bribes.

Some viziers were also architects, doctors, and astronomers. One of the most famous, Imhotep, was vizier to Third Dynasty king Djoser. Imhotep was a brilliant architect. He designed Djoser's Step Pyramid. He was the first to make large buildings entirely of stone. Imhotep was also famous as a doctor, mathematician, astronomer, magician, statesman, and wise man. He was credited with inventing the calendar. In later years, he was worshipped as a god and was considered to be a son of Ptah, the god of arts and learning.

Like modern bureaucrats, viziers loved to add employees to their departments. Reporting to the vizier were several sub-viziers, cabinet officers, and department heads. The chief steward, master of the horse, scribe of the recruits, and superintendent of works also reported to the vizier. So did the nomarchs—governors of Egypt's 42 districts (called *nomes*).

The chancellor (known as director of the seal) oversaw taxes, trade, and economic affairs. Overseers of the treasury looked after raw materials, tribute, loot, and raw materials such as metals. Overseers of the granary managed the harvesting and storage of crops.

Egypt's government had many layers. It was bureaucratic, and very expensive to run. It collected heavy taxes and spent a lot. Huge departments—in charge of farming, granaries, taxes, borders, trade, health, the army, shipbuilding, foreign diplomacy, law—had branch headquarters in Upper and Lower Egypt. Each had many sub-departments and regional offices.

Regional officials working throughout Egypt and in conquered provinces reported to the vizier. One of the most powerful regional officials was the viceroy of Nubia. He ran conquered Nubia, oversaw military forces and border forts, and kept the southern trade routes open. He commanded a large bureaucracy and ruled independently, far from the king's eye. This job was usually passed from father to son.

Egypt was divided into 42 nomes: 22 in Upper Egypt, 20 in Lower Egypt. Throughout Egypt's history, the nomes were the basic administrative units of government. Nome boundaries were ancient, and nomarchs were the descendants of Predynastic tribal chieftains. The nomarch was governor, chief judge, and high priest of the local god or goddess. Each town or city had a Council of Elders that reported to the nomarch.

THE MIDDLE CLASS

A middle class emerged during the Middle Kingdom. It included independent artisans, tradesmen, scribes, and professional soldiers. Most lived in towns or cities, and they gathered in districts with other members of their profession. They formed informal guilds (unions) and tradesmen's groups. They did not control estates, but they were often wealthy and had many possessions. They depended on wealthy customers and clients, but were not tied to a wealthy landowner's estate the way most peasants were.

Only 2 to 5 percent of Egyptians could read and write. They were scribes, who were essential to Egypt's agricultural economy and bureaucratic government. When a government official visited a district to inspect granaries, enforce tax collections, hold a criminal trial, open a new temple, supervise repair of a dam or canal, or oversee a building project, a team of scribes was there, writing everything down.

Like modern technology workers, scribes traveled frequently for their jobs. Their equipment had to be as compact, lightweight, portable, and useful as a modern business traveler's laptop. A scribe carried his tools in a custom-made box decorated with colorful designs. He had a small palette (like a child's watercolor box) with shallow pots of dry red and black ink. (He often carried blue, green, and yellow ink, too.) He packed small pots for gum (a binder for ink) and water, a mortar and pestle (a bowl with a heavy grinding stick) for grinding ink, lumps of raw minerals for colors, extra pens and papyrus scrolls, brushes made of rope or crushed twigs, tools for repairing his pens and brushes, and a clipboard-like writing surface. He was ready for any job.

The scribe moistened his reed pen in gum and drew it across one of the colors on his palette. In flowing hieratic script, he wrote on scrolls of papyrus paper propped up on his writing surface. Many

A traveling scribe carried his tools with him, including inks, brushes, and quills that could be carried in a box like this one.



statues show the typical scribe sitting cross-legged, looking up alertly, pen raised, ready to write.

Scribes were always in demand and always busy. A talented, ambitious scribe had his choice of interesting jobs. He could work in the royal household, on the vizier's staff, with a professional guild, or at the estate

IN THEIR OWN WORDS

The Great Life of a Scribe

A young man named Pepy has been accepted as a student scribe. His father, Dua-Khety, who accompanies him to school, knows that if Pepy becomes a scribe, his entire family will benefit. So as they sail down the Nile, Dua-Khety describes the comfortable life of a scribe, and contrasts it with the hard life of other occupations. A scribe wears nice clothes, has clean hands, is well respected and well-paid, and is never beaten by his master. All other occupations are difficult, dirty, dangerous, never-ending (lots of overtime), poorly paid, and include regular beatings.

Behold, there is nothing that surpasses writings! They are a boat upon the water . . . As for a scribe in any office in the Residence . . . I do not see an office to be compared with it. . . . It is greater than any office. There is nothing like it on earth. . . .

I have seen a coppersmith at his work at the door of his furnace. His fingers were like the claws of the crocodile, and he stank more than fish eggs. . . .

The weaver inside the weaving house is more wretched than a woman. His knees are drawn up against his belly. He cannot breathe the air. If he wastes a single day

without weaving, he is beaten with 50 whip lashes. . . .

The courier goes abroad after handing over his property to his children, being fearful of the lions and the Asiatics. He only knows himself when he is back in Egypt. But his household by then is only a tent. There is no happy homecoming. . . .

The washerman launders at the riverbank in the vicinity of the crocodile . . . His food is mixed with filth, and there is no part of him which is clean. . . .

I mention for you also the fisherman. He is more miserable than one of any other profession, one who is at his work in a river infested with crocodiles. . . .

See, there is no office free from supervisors, except the scribe's. He is the supervisor!

Dua-Khety's advice to Pepy, called "The Satire on the Trades," was originally written about the time of the Twelfth Dynasty, during the Middle Kingdom. All surviving copies, though, date to the New Kingdom era.

(Source: "The Instructions of Dua-Khety," Tour Egypt. Available online. URL: <http://www.touregypt.net/khety.htm>. Accessed January 6, 2008.)

of a nobleman. He might work at a building site tracking labor, materials, and progress. He could work in a temple, copying religious texts or teaching student scribes. He could provide sketches of hieroglyphic texts to stone carvers and painters working on decorating a tomb or temple.

Egypt's professionals—engineers, architects, astronomers, mathematicians, and doctors—came from the ranks of scribes. Scribes could become civil engineers, in charge of harbors, irrigation systems, roads, canals, and public works. They might go along with trading or mining expeditions to Nubia, Lebanon, or Sinai to negotiate trades or record business deals. They might join diplomatic missions to write down treaties and trade agreements.

Scribes were almost always men. The job was often passed down from father to son, but a clever peasant boy might be selected to attend a temple school. A Middle Kingdom literary work called *Satire of the Trades* impressed upon students the advantages of being a scribe, and the miseries of every other occupation.

Scribes generally did not pay taxes. They were supported generously by the government and by temples. They were fed, housed, and given fine clothes. They did no heavy labor. A scribe was sometimes his own boss (although most were part of a government administration). A scribe often supervised important projects. He was honored and respected by all, and held up as a role model for the young.

The scribe's high status also brought responsibilities. He was expected to be a man of especially good character and to live up to the reputation of his profession. Scribes were held in such high regard that wealthy men who were not scribes often had statues made showing themselves as scribes.

Egyptian artisans, another part of the middle class, created beautiful work, but not for personal artistic expression. Their statues, paintings, and carvings had specific religious, magical, or ritual purposes. In the early days, art mainly served the dead (especially kings), and the gods. As Egypt grew richer, artisans began creating beautiful and useful objects for the living.

Most artisans labored in workshops as members of efficient production teams. They did not sign their work and get individual recognition. Their work was dedicated to the glory of the king, the dead, and the gods and goddesses.

They had plenty of opportunity to demonstrate technical excellence and pride in their workmanship. Their work required talent, skill,

Tuthmosis the Sculptor

While archaeologists were studying the ruins of Akhetaten, King Akhenaten's short-lived capital at Tell el-Amarna, they discovered the remains of the workshop of the sculptor Tuthmosis. Buried under rubble and sand, they discovered several incomplete sculptures and models that Tuthmosis had probably used in training his apprentices.

One of these models was a painted limestone statue of the head of Nefertiti, Akhenaten's queen. It is now displayed in the Egyptian Museum in Berlin, Germany. Today, the statue has become one of the most treasured symbols of ancient Egypt. Because of it, and because his workshop had been abandoned quickly and remained undisturbed for thousands of years, modern scholars know more about the life of Tuthmosis the sculptor than they do about many of Egypt's kings.

patience, and discipline. Though it had to follow strict conventions and traditions, it was frequently witty and inventive, and almost always graceful and elegant.

Artisans apprenticed (learned their trade) for years in the workshops of master craftsmen. Most artisans did not know how to read or write. They copied plans and sketches provided by scribes or priests.

One workers' colony studied by Egyptologists, at Deir el-Medina near Thebes, was occupied by generations of artisans and tradesmen who worked on tombs in the Valley of the Kings. They lived with their families in a walled village, enjoying a large measure of independence and self-government. They worked four hours in the morning, took a lunch-and-nap break, then worked another four hours. They enjoyed one day of rest every 10 days (10 days was an Egyptian week). They often took time off for festivals and religious holidays. In their off hours, they were free to cut and decorate tombs for themselves and their families in the nearby cliffs. Some worked part-time as priests.

Workers were paid in wheat and barley. The government supplied fish, vegetables, oils, butter, salt, charcoal, wine, and beer. They had servants to do laundry, carry water, grind grain, and catch fish. They employed cooks, butchers, rope-makers, weavers, and basket makers.

THE MILITARY

Another way to raise one's status was in the military. Before the Middle Kingdom, Egypt did not have a regular army. Soldiers were drafted when they were needed. Each nome had to send a specific number of men. Military leaders were citizen soldiers, not professionals.

During Egypt's imperial age, however, military service became a profitable career. Professional officers were rewarded with tax-free estates, livestock, gold, ceremonial weapons, and comfortable retirement jobs.

During the New Kingdom, Egypt had two large armies divided into four divisions. They were stationed permanently in Upper and Lower Egypt. The army included infantry (soldiers who fight on foot), scouts (who go ahead of the army to check out the situation), charioteers (who fought from chariots), marines (who fought from land or on boats), and archers (who used bows and arrows). Officers successfully used strategies, tactics, and innovations introduced by the Hyksos, including horses and chariots.

New Kingdom soldiers were a privileged, prosperous class. During peacetime, they lived in military communities. Soldiers returning from battles were rewarded with land, livestock, and peasants to farm their land, which they could keep as long as at least one member of their family remained on active duty.

A military career was one of the few paths to status and wealth for a poor young man. Even common soldiers shared in battle loot, including cattle, weapons, and other items taken from defeated peoples. Ahmes Penekhet, a soldier who distinguished himself in battle against the Hyksos and Asiatics, won armbands, bracelets, rings, two golden axes, and two silver axes. He also received the “gold of valor”—six gold flies and three gold lions—from the king.

Most Egyptians were unwilling to go abroad for military expeditions. They were terrified that if they died outside Egypt, their bodies would not be properly mummified or buried, and the proper prayers and spells would not be said at their funerals (if they even had funerals). If that happened, they would lose their chance at eternal life. So even at the height of empire, much of the army was made up of mercenaries (soldiers for hire) and troops from conquered lands, especially Nubians.

Late Period armies were mostly Asiatics and Greeks. Slaves and foreign captives often won their freedom by joining the army.

SERFS, SLAVES, AND GUARDS

Egyptian peasants were serfs—people who had to work their masters’ land and could not leave. They could also tend their own land and own animals when they had time. But most peasants owned very little, and everything they produced was heavily taxed. Most lived in small mud-brick houses in villages next to the fields. Each village had a Council of Elders, members of the main families who handled day-to-day matters and minor disputes.

A peasant’s life was one of constant, backbreaking labor. He planted, tended, and harvested his master’s main crop. He labored in his master’s garden and tended his master’s herds, flocks, and beehives. He carried endless heavy clay jars of water from river or canal to field and garden, balanced in pairs across his shoulders on a frame called a yoke.

The government also required labor for certain projects from peasants, although it was not considered slavery. During the inunda-

This Beer Is for Inty-shedu

In 1992, archaeologists at the Giza Pyramids were digging at an ancient cemetery southeast of the Sphinx. It includes more than 30 tombs of craftsmen and artisans who worked on the pyramids. One of these belonged to a carpenter and boat builder named Inty-shedu. The main burial shaft contained a skeleton and two jars of beer. Two other burial shafts held only skeletons.

Inty-shedu's tomb was a rare find in many ways. But it held an extra surprise: a *serdab* with several statues. A *serdab* (Arabic for "cellar") is a wall niche or small chamber containing a miniature portrait statue of the dead person. The *serdab* figure was a kind of insurance policy for the tomb owner. If anything happened to his mummy, his *ka* (spirit) would recognize the *serdab* figure, allowing him to still enjoy eternal life. The *serdab*

statue was sealed into its chamber, with a tiny slot where the *ka* could enter.

Inty-shedu did not have the usual single statue. Instead, he had five *serdab* figures showing him at different ages. Like a modern man who wants the loudest stereo or the fastest car, Inty-shedu wanted to stand out from the afterlife crowd.

But he also wanted to be one of the guys. In his statues as an adult, Inty-shedu wears a moustache. Archaeologists know that moustaches were popular among working men, while kings and nobles were generally clean-shaven.

Inty-shedu's portrait statues, made of painted limestone, are very lifelike. It is easy to imagine "magically activating" one of them, opening a jar of beer, and sitting down with Inty-shedu to talk about business.

tion, the fields were under water and most peasants had nothing to do. The government took advantage of this idle labor force. They were drafted to build royal tombs and temples, cut and haul stone, work mines, or for military campaigns. Canals, dams, and reservoirs that held and managed the waters of the inundation were in constant need of improvement, maintenance, and repair. Draftees were put to work year round on these projects and were sent wherever their labor was most needed.

The work was often very hard and dangerous. But the men were fed, housed, and treated reasonably well. Evading the labor draft was a serious offense, and it was punished harshly. If a draftee ran away, his family might be sent to prison or held hostage until he returned.

A man who had enough money, could hire a replacement worker to take his place in the labor draft. This a practice was not officially approved, but the government tolerated it.

This kind of labor was not popular. Still, many men probably saw their experience as an adventure. This might be their only chance to see the world beyond their village and participate in the great works of the age. A talented worker might be noticed by an important official and given education and training.

Most slaves were foreign war captives from Asia or Nubia. The concept of a slave as a person totally owned by another person did not exist. The line between “slave” and “citizen” was fuzzy. The personal slave of a wealthy man was often better off than a peasant. The slave could own property, and even have servants. He could purchase his freedom, or his master could free him with a word. Most Egyptian slaves were treated reasonably well, especially compared to slaves elsewhere in the world at the time. They were fed, housed, and given a yearly allowance of clothing, oils, and linen. When it was especially hot, their work hours were reduced. In the Late Period, many foreigners, including former slaves and descendants of slaves, rose to positions of power.

The Medjay (or Medjai) were desert wanderers from Nubia who were hired by Egypt as policemen, guards, and soldiers. The Medjay had reputations as fearless guards and brutal law enforcers. They punished criminals such as tax evaders and people who tried to avoid the labor draft. They guarded palaces, temples, and tombs all over Egypt. But no police force, even the fierce Medjay, was ever able to stop the robbers who looted just about every royal tomb in the land.



Slaves performed many tasks in Egyptian life. This statue shows a slave making beer, a very popular Egyptian drink.



CHAPTER 5

EVERYDAY LIFE IN EGYPT

AS EGYPT GREW, SOME OF THE SETTLEMENTS ALONG THE Nile River blossomed into towns and cities. These towns had districts for temples, tradesmen, artisans, and laborers. But most people lived in rural areas and villages. At most, 5 percent of the people were city dwellers.

Cities and towns were hot, dry, and dusty. They were crowded with people and animals. Streets were cramped and narrow. Flies and biting insects swarmed and buzzed. Smoke from cooking fires lit using dried animal dung (feces) hung heavily in the air.

Although the Egyptians were clean in their homes and persons, they saw any space outside their front doors as a place to dump things. Trash and garbage were taken to the nearest canal, thrown into alleys or temporary pits, or piled in heaps wherever there was space. Heated by the broiling sun, trash heaps quickly became smelly nightmares, filled with bugs and rodents.

Once the Egyptians domesticated the cat (during the Middle Kingdom), conditions in the cities improved. Cats quickly went to work killing rats and mice and other pests in alleys, dumps, homes, and granaries. This improved health and preserved precious food supplies.

HOMES AND OTHER BUILDINGS

Most homes and villages were built on high ground to protect them from the inundation. Settlements in low-lying areas were surrounded by dams and berms (walls of earth). These berms had to be constantly inspected and maintained to make sure the water would not flow in.

OPPOSITE

Dad, mom, and baby: This carving shows a typical Egyptian family and was made about 2500 B.C.E.

Plumbing and Bathtubs

Most Egyptian homes lacked even the most basic plumbing. Some middle- and upper-class homes had “earth closets”: primitive toilets with limestone seats and a bucket of sand. Drainage went into layers of sand beneath the house.

Some wealthy families had bathing rooms with limestone-slab floors. The bather stood in this “shower stall” while servants threw buckets of clean water on him. Drainage ran into a large bowl on the floor, or through a channel in the wall and out into a barrel outdoors. The practical Egyptians probably recycled the waste water into their gardens.

No one had running water. Water was carried in large clay jugs and pots from the nearest canal or the river. The backbreaking job of carrying a household’s daily water supply was women’s work. Some wealthy families had wells dug on their property, eliminating the need for constant water-carrying.

Good-quality wood for building had to be imported. Building with stone was expensive and was hard work. Limestone, granite, huge wooden columns, and other expensive materials lasted a long time, but they were very expensive. These materials were used for homes for the dead and homes for the gods.

Houses and other buildings for the living, from a peasant’s hut to a king’s palace, were built of mud-brick: clay- mud from the Nile, mixed with chopped straw or sand and dried in the sun. By 3000 B.C.E., Egyptian builders were already expert mud-brick builders. They had even developed standard brick sizes and shapes.

Sun-dried mud-brick was cheap, easily available, had many uses, and could be shaped quickly into structures of any size. In the hot, dry climate, mud-brick buildings lasted several generations.

The Egyptians knew how to bake bricks in a large oven called a kiln, to dry them out and make them hard. But sun drying was easy and efficient. And sun-dried bricks were strong and long-lasting. So they saw no need to build oven and use up fire fuel baking their bricks.

Home for a peasant farmer or workman was just a few small rooms. At sites of major public projects, like the Giza Plateau during the Fourth Dynasty pyramid age, the government built “workers’ villages.” These were rows of simple houses.

The typical home, big or small, followed a model that is still common in Egypt and other hot climates. Facing the street, the home was just a blank wall with a door. A visitor passed through a reception area

before reaching an open courtyard (an area surrounded by walls that has no roof).

Several rooms surrounded the courtyard. The most private ones were for the women. The arrangement, size, number, furnishings, and decorations of rooms varied greatly. It depended on the homeowner's wealth, status, and taste. Some homes had a second story or additional courtyards. Flat roofs were reached by staircases or ladders. These became breezy outdoor sleeping places on hot nights.

Thick walls of mud-brick helped keep the inside of the house comfortable. Tiny windows set high in the walls helped heat escape. The few small openings were covered with linen hangings or wood shutters to help keep out dust and insects. Pots of scented oils sweetened the air.

Some homes had small, triangular roof structures (called "wind towers") that directed cooling north winds into the home. These were common features of Egyptian homes well into the 20th century, and even today.

Inside the house it was quite dark. Houses were lighted at night with small oil lamps made of pottery. (Herodotus found the scent of the Egyptians' lamps, lit with castor oil, unpleasant.) Fancier homes were lit with elaborate lamps of carved stone that allowed light to shine through, such as alabaster.

Most cooking was done in outdoor kitchens on stone hearths (surfaces in front of a fire) or on metal braziers (a kind of barbecue). The most common cooking fuel, still used in rural Egypt today, was cow dung. Charcoal and wood scraps were also occasionally burned.

Egyptians loved plants and flowers. They grew a great variety for home and personal decoration, and as offerings to the gods and the dead. Many herbs and flowers were used in food, cosmetics, and medicines. Country villas of wealthy families had lush gardens that were irrigated year round with water carried in stone jars from a canal or the river.

The courtyard was a pleasant retreat from the dirt, insects, and noise of the street. It might have a pool of cool water surrounded by flowers and vines, date palm and fig trees, and other fruit and shade trees. Some families planted sycamore trees, which were sacred to the goddess Hathor.

Many families plastered their interior walls and had them painted with colorful designs, flowers, animals, and nature scenes. Many homeowners laid floors of pressed clay or brick paving tiles,

coated with smooth plaster. Floor coverings woven of reeds, papyrus, or palm straw helped trap the ever-present dust and sand, and served as sleeping mats.

INTERIOR DECORATING

The Egyptians' preferred a clean, uncluttered interior decor. There was not much furniture, and the few pieces were simple: low tables, wood stools with woven straw seats, and stands or pedestals to hold platters of food. Chairs with arms were rare, and were reserved for important guests.

Most people slept on the floor on woven mats, although some used low, built-in platforms of brick or wood. According to Herodotus, people in Upper Egypt slept on raised platforms, above the clouds of flies and gnats. In Lower Egypt, sleepers draped their mats with fine netting—which they used by day to catch fish. This kept away the bugs.

During the prosperous New Kingdom, upper-class homes were more richly furnished. They had beds, chairs, and couches topped with soft cushions. Furniture legs were carved in wonderful shapes, such as animals' paws.

Mud-brick construction made it easy to build in handy wall niches for linens, pottery, and other household goods. Jewelry, clothing, cosmetics, perfumes, toys, and other personal possessions were stored in wooden chests, boxes, or woven baskets.

THE EGYPTIAN FAMILY AND HOUSEHOLD

The Egyptians highly valued marriage and family. The basic family unit was the nuclear family of father, mother, and children. Households often included unmarried or widowed female relatives. The family supported these women, and in return gained extra hands for childcare and housework.

Couples wanted to have as many healthy children as possible. If a married couple was unable to have children, they often divorced. Childless couples sometimes adopted children.

Women had a great deal of freedom, independence, and status. Unlike women of most ancient societies, they could control or rent property, inherit wealth, own slaves, leave property to their children (or decide not to), take legal cases to court on their own, operate businesses, work outside the home, and live alone without a male guardian.

The First Artificial Body Part

Today, millions of people who have lost body parts because of illness or injury live better lives thanks to the art and science of prosthetics. Prosthetics are artificial arms, legs, feet, joints, and other body parts. Today they may have high-tech computer controls and sensors. But the very first working, artificial body part in history that we know about was made for an ancient Egyptian woman who had lost her big toe, probably because of diabetes.

The so-called “Cairo toe” is an artistic wooden and leather right big toe. It was found attached to the well-preserved mummified foot of the wife of a high priest. When she died, somewhere around 664 B.C.E., she was between 50 and 60 years old. Her foot was found by archaeologists in 2002 in the Theban necropolis (an area near modern Luxor with many tombs, especially of priests and nobles).

The toe is cleverly made with joints so that it can bend, much like a real toe. It

includes a tinted toenail, and was attached to the foot with linen threads. The toe shows signs of wear, and the site where the original toe was cut off is well-healed. Therefore, many people who have studied the toe think the woman actually wore it for many years, to aid her in walking and balance.

Other scholars, including Dr. Zahi Hawass, secretary general of Egypt’s Supreme Council of Antiquities, disagree. Hawass thinks the toe was probably attached to the foot after death, just to help the woman look better in the afterlife.

To find out if the Cairo toe could have worked in real life, a team of scientists from the KNH Centre for Biomedical Egyptology at the University of Manchester in Britain is testing copies of the ancient toe on volunteers who are missing their right big toe. They will observe how the toe works in everyday use, and check it to see if it wears down like the ancient model.

Their lives were not easy, though. Girls were typically married by age 12 to 14, as soon as they could have children. Many babies died in infancy, so it was important to make the most of the years when a woman could give birth.

Marriage was an agreement between a man and a woman to live together and have children. There was no official ceremony. There were divorces, separations, and remarriages. Adultery (having a relationship with someone other than your husband or wife) was punished harshly, especially in women. Polygamy (a man taking multiple wives)

was accepted, but only wealthy men were able to have multiple wives. Polygamy was too expensive for the average working man.

A married woman was called “mistress of the house.” She was responsible for child care, cooking, carrying water, grinding grain, baking bread, brewing beer, spinning thread and weaving cloth, making and repairing clothing, and tending the shrines of domestic gods and goddesses. Wealthy women supervised many servants.

Pregnancy and childbirth were extremely dangerous for both mother and baby. Doctors could offer little help. Pregnant women recited magical spells and prayers, made offerings to Bes, Taweret, and Bastet, and wore protective charms. A woman gave birth in a squatting or kneeling position, balanced over a platform. A midwife (a person who is trained to help women give birth) stood by to help. Afterwards, the woman and her child had to leave home for several days for purification in a special “birth tent.”

AN EGYPTIAN CHILD’S WORLD

A few Egyptians enjoyed long lives. Pepy II, last king of the Sixth Dynasty, ruled for more than 90 years. But most people did not live past age 35 or 40. Three or four out of every five children did not survive to adulthood. Because so many children died young, children were only gradually included in the life of the family and community.

Childhood was brief but happy, with games, toys, and freedom. Egyptians often named (or nicknamed) their children after animals, such as Monkey, Cat, Frog, Mouse, Hound, or Gazelle. The name was usually based on the child’s behavior. Miit (cat) was a popular name for girls.

Children played games much like today’s: leap frog, running and jumping, swimming, tug-of-war, ball games of many kinds, and a form of hopscotch. Gymnastics, vaulting, and handball were popular with both boys and girls. One ancient game, “goose steps,” is still played in rural Egypt. In it, one player jumps over a barrier made by two seated players.

Girls played with dolls and small figures of animals. Children fished, swam, and rowed small boats. Some wealthy families had swimming pools.

Late childhood was devoted to preparing for adulthood. A peasant child’s life of hard labor began early, helping with planting and harvest-

ing. Boys were considered fully adult by age 15 or 16. They were expected to take on adult responsibilities, adopt a profession, and support their families.

Girls almost never learned to read and write. Priests, nobles, and the wealthy sent their sons to temple schools to study under the strict guidance of priest-scribes. A peasant boy who showed extraordinary intelligence might be sent to school. This was a major turning point in his family's fortunes, because the few people who could read ran the country.

Most of a young man's higher education was on-the-job training, alongside a master in his chosen field. Youngsters studying to become priests, and students of mathematics, medicine, or astronomy, stayed at the temple school for advanced education.



This wooden toy cat from Thebes has a mouth that opens and closes.

BREAD AND BEER FOR PEASANTS AND KINGS

The staples (basic foods) for everyone, peasant to king, were bread and beer. Emmer and spelt, the two kinds of wheat grown in Egypt, were ground on a grinding stone called a *saddle quern*. This work was done by women, and was very hard on the back and knees. Bakers created dozens of kinds of bread, to be served with thick spreads of fava beans, lentils, or chickpeas.

Even humble homes had a kitchen brewery. Barley flour was formed into loaves, which were lightly baked. The baked loaves were soaked in tubs of water and allowed to ferment (develop alcohol). Other varieties of beer were made from fermented wheat, wheat loaves, or plain ground, unbaked barley. Beer was sweetened with honey, dates, or fruit juices.

Wine made from fermented palm sap or grapes was also popular and widely available. Vineyards in the Nile Delta produced the best wines, but wine also came from several other regions. Imported wines had snob appeal, just as they do today. Wealthy families grew grapes



CONNECTIONS

Marshmallows and Licorice

The Egyptians loved sweets: sweetened beer and wine, and marshmallows and licorice. Marshmallow candy is among the world's oldest sweets, and dates back to 2000 B.C.E. Egyptians made a honey-based candy flavored and thickened with the sweet, sticky sap from the roots of the marshmallow (*Althaea officinalis*), a plant that grew wild in salt marshes and in wetlands around the Nile. This special candy was said to be reserved for royalty and for offerings to the gods.

Egyptian doctors also used honey and the sap of the marshmallow plant in medicines, especially in remedies such as medicinal

wines used to treat sore throats. This practice was common right through the 19th century.

Another plant the Egyptians both enjoyed as a sweet and in medicine was licorice (*Glycyrrhiza glabra*). A supply of dried licorice root was found in Tutankhamun's tomb. The sweet root was chewed as a treat. Egyptian doctors also prescribed it to treat coughs and lung disease.

Licorice root is still widely used as a flavoring and an ingredient in foods and medicines. It is still grown in Egypt, and is exported for use in organic foods, teas, and herbal medicines.

in their gardens and pressed their own wines. The Egyptians preferred their wine sweet, just like their beer, so they added honey or fruit juices. Beer and wine stayed cool in large, sealed pottery jugs.

Even the poorest peasant could add onions and eggs to his diet. Also on the regular menu was fish, caught in the Nile or in the many irrigation canals. Nile perch, catfish, and tilapia were roasted over coals. Fish and pork were considered impure foods and priests and wealthy people did not eat them. But both were common in peasants' diets.

Farm families kept flocks of birds for the table. Goose, duck, crane, and pigeon, roasted over charcoal, were favorite menu choices. They were available to all but the poorest people. Wild birds of the marshes were trapped in nets or brought down with boomerang-like throw sticks. Some were killed and eaten. Others were kept in small flocks for eggs.

Wealthy families had a much richer and more varied diet. They regularly enjoyed milk, butter, and cheese from herds of cows and goats. They frequently ate beef, goat, lamb, and mutton (sheep). All these foods were rare in a peasant's diet. In the palaces, people also dined on unusual meats such as gazelle and antelope.



Birds such as geese were often served in Egyptian homes. This statue shows a cook roasting a goose. Farm families kept flocks of birds to eat, and also trapped wild birds in the marshes.

A WEALTH OF PRODUCE

Irrigated gardens around country estates produced many types of fruits and vegetables: melons, figs, pomegranates, dates, onions, peas, chickpeas, beans, lentils, lettuces, leeks, cucumbers, cabbages, horseradish, spinach, turnips, carrots, eggplants, and radishes. Grapevines produced table grapes, raisins, and wine. Herb gardens featured dill, coriander, chicory, cumin, parsley, and various varieties of mint (possibly including catnip). Juniper berries were grown as a spice.

The Egyptians pressed oils from sesame seeds and castor beans for cooking, flavoring foods, and making medicines and cosmetics. They pressed flax seeds for linseed oil. The most common oil was pressed from the fruit of the Moringa tree.

Rich or poor, people ate with their fingers. In wealthy households, servants poured water over their masters' hands between courses and offered clean linen towels to dry them.

Most households were well equipped with pottery jugs, pitchers, bowls, platters, and mugs. Wealthy families had sets of fancy dishes made of fine alabaster, schist, or other decorative stone.

Until the New Kingdom, there were no dining tables. Diners squatted on rush mats at low, multi-purpose tables, or stood up and picked

food from bowls or platters on stands, buffet style. The elite of the New Kingdom sat on high stools at large tables, or they lay on couches while servants brought them food and drink.

PERSONAL APPEARANCES

Appearance, cleanliness, and good grooming were important. Even mummies were carefully groomed. Medical papyrus scrolls include formulas for preventing baldness, fighting wrinkles, and coloring gray hair. The Egyptians washed with natron-and-oil soaps, shaved with copper or bronze razors, and plucked stray hairs with copper or silver tweezers. They applied black eye paint (called kohl), scented oils, and deodorant made of powdered carob. They admired the results in

hand-held mirrors made of highly-polished copper.

Egyptian clothing was light, simple, and elegant, especially in the Old and Middle Kingdoms. Egypt was almost always hot, so both men and women wore as little as possible. Men wore plain linen loincloths (a single piece of cloth wrapped around the hips) that hung to the knees. Women wore simple linen dresses. Children generally ran about naked, wearing only amulets or magical symbols (often depicting the god Bes) to protect them from harm.

Many men shaved their heads. This was a sensible choice in a hot, dry, dusty, insect-infested land. Many women, including legendary beauty Nefertiti, did too. For dress-up, both men and women wore wigs made of human hair, or a mixture of hair and plant materials that was stiffened with beeswax. Wigs came in many styles. Some included braids, ribbons, and jeweled ornaments. Wig fashions came

In the hot climate of Egypt, people wore simple, lightweight clothing such as this linen tunic.



and went. Nefertiti favored a short, curly Nubian-style wig, which was widely copied by her subjects.

Children had shaved heads except for what was known as the “side-lock of youth” (also called the “Horus lock”). This was a narrow bunch of uncut hair hanging to one side of the face. The falcon-god Horus was the Egyptian model of the good son, and the Horus lock was worn as a reminder of Horus’s role as a virtuous and devoted child. Cutting off of the side-lock was a special ritual when a child became an adult.

During the New Kingdom, enormous wealth flowed into Egypt. The elite wore colorful, elaborate clothing, jewelry, and personal decorations. Increased contact with the Near East, where colorful, ornamented textiles were popular, influenced fashions.

Women enjoyed the opportunity to dress up in elaborately pleated, embroidered, and decorated gowns, capes, and shawls in many colors. Men wore richly pleated kilts, capes, and long skirt-like garments with decorations and rich embroideries.



CONNECTIONS

Health, Beauty, and Tabby Cats

Men, women, and children of all ages and social groups wore heavy eye makeup called *kohl*. On stone palettes, they ground malachite (a green ore of copper) or galena (a dark gray ore of lead) into powder, blended it with fragrant oil, and applied it in thick bands above and below their eyes with a rounded-end tool called a kohl stick. They also brushed natural pigments made from colored earth and minerals onto their eyelids and eyebrows.

Scholars have long known that the thick eye paint offered some protection against the constant glare of the sun, blowing sand and dust, and the clouds of insects. Eye paint was an ancient version of sunglasses. Modern-day athletes still paint thick black lines under their eyes.

In 1999, Egyptologists and chemists studied the contents of several 4,000-year-old pots of kohl in the collection of the Louvre Museum in Paris, France. The pots were from ancient Egyptian makeup kits. The researchers found chemical compounds that were used thousands of years later by Greek and Roman doctors to treat infectious eye diseases such as conjunctivitis.

Elaborate eye paint was also a fashion statement, and even a form of religious devotion. Worshippers of the cat-headed goddess Bastet may have painted their eyes in imitation of the tabby markings on their cats’ faces. Today, the dark rings around a tabby cat’s eyes are still called “eyeliner.”

Even at their fanciest, Egyptian fashions were graceful, tasteful, and (almost) never overdone. Most clothing was made of natural-colored linen. Linen is spun and woven from a plant called flax, which was one of Egypt's major crops. Small figures and paintings show women in multi-colored dresses with geometric patterns of red, yellow, and blue.

Egyptians went barefoot most of the time. During the prosperous years of the empire, royals and the elite completed their outfits with sandals made of rush or papyrus stalks, leather shoes, or leather slippers. Both men and women wore clothing and accessories made of wool and leather. But these materials were not considered pure in a religious sense because they came from animals, so leather and wool are seldom shown in art works.

MAKING CLOTH

Most flax was spun and woven into linen cloth. Fine linen, torn into strips, wrapped mummified corpses. Flax was also spun and braided into durable rope. This rope was strong enough to haul multi-ton stone blocks.

Linen was one of Egypt's major exports, and it was in demand all over the world. It was woven in several grades, from coarse cloth to fine, almost see-through "royal linen" that was prized by wealthy ladies. Most linen was left its natural, off-white shade. Vegetable dyes were used to make yellow (safflower), red (madder), and blue (acacia tree bark) fabric.

In Predynastic times, the art of weaving fine linen on flat, horizontal looms was already well developed. The Hyksos introduced vertical looms. During the Nineteenth dynasty, a major linen manufacturing business was run by harem ladies and minor members of the royal family at a royal palace at Miwer in the Nile Delta.

Silk, a luxury reserved for only the wealthiest ladies, was not known until the Persian conquest in 525 B.C.E. Cotton, for which modern Egypt is famous, was not grown until Roman times.

JEWELRY AND AMULETS

Everyone wore jewelry. The wealthy had rich ornaments made of gold and decorated precious stones such as with amethyst, turquoise, and lapis lazuli. Less wealthy folks wore strings or collars with faience beads and

amulets. (Faience is pottery coated with brightly colored glazes.) Jewelry, especially amulets and charms, had magical and protective powers. Carnelian, turquoise, and lapis lazuli brought luck. Even the poorest peasant child wore a pottery or bone ring or amulet with a crude image of Bes.

Amulets magically attracted good luck and kept away evil. They protected the wearer from accidents, hunger and thirst, snakes, demons, and other everyday dangers. Amulets were made in many forms: scarabs (beetles) and the *ankh* (symbols of eternal life), animals, gods and goddesses, crowns, and the Eye of Horus (symbol of wholeness).



Among the wealthy and royalty, elaborate jewelry was worn by both men and women. This neck collar, made of semiprecious stones, was found in the tomb of King Tutankhamun.

THE EGYPTIANS AND ANIMALS

Most Nile Valley animals were not dangerous. They were easy to hunt, herd, or domesticate. Egyptians trusted amulets and magic spells to protect themselves from the exceptions—crocodiles, scorpions, and several kinds of snakes with deadly bites.

When hippos were common, they caused much damage to crops and fields and were hunted as nuisances. Rats and mice that ate or ruined stored grain were a huge problem until the cat was domesticated during the Middle Kingdom.

Hunting and fishing in the marshes was a popular sport and a way to get food. Hunting for daily food became less important as farming and animal husbandry (raising domesticated animals) became widespread.

In Predynastic times, settlers rounded up the wild cows, bulls, oxen, gazelles, oryx, and goats that roamed the Nile Valley. They gathered them into farm and temple herds. Animals were raised for milk, skin, meat, and sacrifice to the gods. Geese, ducks, cranes, and pigeons were bred and fattened for food.

IN THEIR OWN WORDS

The Tale of the Mouse Who Became Vizier

The Egyptians were very fond of fables, especially those featuring animals with human characteristics. Sadly, only a tiny number of tales have survived: nine tales from the Middle Kingdom, and seven from the New Kingdom and Third Intermediate periods combined.

Most literature was copied onto papyrus, which was never made to last a long time. Many poems, songs, and tales may have vanished forever during the treasure-hunting era of early Egypt exploration, when papyrus scrolls were often tossed aside in favor of gold and other valuables.

In this tale, the king decides that whoever solves a difficult riddle will be the next vizier (his top assistant and the judge of criminals). A mouse solves the riddle, so he becomes vizier. This part describes how all the other animals prepared to celebrate the mouse's great honor. The idea of cats serving mice must have been particularly funny to the Egyptians, because they kept cats as pets to kill mice.

This was the puzzle's solution. Pharaoh raised his head, praised the little mouse and appointed him to be his vizier. The mouse was solemnly inducted into its new office. Pharaoh presented him with the gold of honour and received his oath of allegiance as vizier. He read out the virtues of a just vizier. Henceforth the mouse was to sit at the Pharaoh's right.

Meanwhile, all the animals were preparing great festivities in order to celebrate the mouse's new position of honor. The hares

made the plans. The hippo brewed beer, a goat carried water with a yoke, and the pot-bellied one himself strained the mash with a sieve. The pig put the beer-dough on a platter, while a hyena looked after the sow's piglet carrying it in a breast cloth. Cats mixed wine in the kitchen and baked cakes. . . . The crocodile and the lion too roared out songs and accompanied them with music. . . . In the meantime, the mouse was prepared for the festivities. His feet were washed, he was given the eye-liner and the mirror. A cat served him the morning drink. The mouse slurped the wine through a pipe from the jug. A feline maid servant tied a beautiful bow around his neck, and another cat chamberlain brought the fan in order to fan the high lord with cool air. . . ."

As vizier, the mouse had to decide how to punish people and animals accused of various crimes. But he was too quick in judging, and tried to correct one injustice with another injustice. This so angered the king that he declared that all mice would live underground forevermore. The story ends:

Therefore he proclaimed loudly: "From this hour onward, all mice shall disappear from the fields and shall live underground only!" Thus the king spoke and thus it happened. This is the reason why mice live in subterranean holes to this day.

(Source: "The Mouse As Vizier," A Short History of Ancient Egypt, Ancient Egyptian Texts. (Based on a German translation by Emma Brunner-Traut, 2003.) Available online. URL: http://www.reshafim.org.il/ad/egypt/texts/mouse_as_vizier.htm. Accessed January 2, 2008.)

Hunters speared and netted fish. They brought down game birds with boomerang-like throw sticks. They captured birds for domestic flocks or to be fattened as religious sacrifices. Nobles and the wealthy hunted for sport. They took hippos, crocodiles, lions, leopards, antelopes, gazelles, ibexes, oryx, giraffes, and elephants.

The Egyptians cherished pet dogs and cats as companion animals. From ancient times, dogs guarded herds and helped hunters. Later Egyptians were great dog breeders, and developed dogs that looked much like modern Salukis. Dogs, usually depicted in the company of men, were named for their looks. Ebony or Big were common dog names.

Cats, who arrived in the Nile Valley during the Middle Kingdom, were originally prized for their ability to kill rodents and protect food supplies. But they were soon adopted as household pets. They not only controlled rats, mice, and snakes, but also offered companionship and pleasure. In Egyptian art, cats were usually shown with women.

After the Hyksos introduced horses, the Egyptians became famous horse breeders and charioteers. They did not ride the horses, however. Scholars believe the spines of their horses were too weak to support riders.

SPORTS, GAMES, AND FUN

Egyptians loved competition. The work gangs building the Great Pyramid adopted team names and slogans, bragged about their own stone-hauling abilities, and teased other crews for being lazy. Farmers harvesting crops chose up sides and tried to outdo the other guys in how fast they brought in their grain.



CONNECTIONS

Pack Animals

Pack animals, used to carry heavy loads, may have been in use for thousands of years by the time the Nile Valley was settled. But the first certain evidence of pack animals at work comes from Upper Egypt in the early dynastic era, around 3000 B.C.E.

Early settlers in the Nile Valley tamed the donkeys that roamed the valley and gathered them into domestic herds. It probably was not long before a tired farmer or water carrier tied his load onto the back of one of these sturdy, uncomplaining beasts. By 2000 B.C.E., trains of heavily laden donkeys were common in Egypt, the Near East, and the surrounding deserts.



CONNECTIONS

Take Me Out to the *Seker-Hemat*

The Egyptians were the first to play ball games. Egyptologist Peter Piccione, professor of comparative ancient history at the College of Charleston in Charleston, South Carolina, noticed a connection between an Egyptian religious ritual called *seker-hemat* ("batting the ball") and modern baseball, stickball, and softball.

He was studying wall paintings in a shrine of the goddess Hathor, at a temple built by Queen Hatshepsut at Deir el-Bahari. In one painting, Eighteenth Dynasty king Tutmosis III holds a slender, bat-like stick in one hand and what looks like a baseball in the other hand. Two priests facing the king—catchers—hold similar balls.

Each night, the sun traveled through the dangerous underworld. While it was

there, the snake Apopi, who symbolized chaos, tried to eat it. The *seker-hemat* ball was the "eye of Apopi." By batting the ball, the king destroyed chaos, upheld *ma'at*, and made sure the sun rose in the morning.

An inscription over the scene (from 1475 B.C.E.) says, "Batting the ball for Hathor, who is foremost in Thebes." According to Piccione, *seker-hemat* started out as a game and became a religious ritual. It was played in open courtyards of temples. Archaeologists have found three-inch, stitched leather balls that look much like the balls in the temple painting.

Like modern baseball stars, the *seker-hemat* player-king was seen as a strong, heroic figure.

The king and wealthy nobles sponsored sporting events. They provided equipment, announced winners, and awarded prizes such as special collars. Players wore uniforms and shouted down the calls of the referees. Participants were cheered not only for winning, but also for showing ability, grace, and good sportsmanship.

Older children and adults played games that resemble modern sports. These included handball, hockey, boxing and wrestling, long-distance running, weight lifting, long jump and vaulting, archery, javelin throw, fishing, and hunting. Drawings on tombs at Beni Hasan show a sport much like field hockey. Players had sticks made of palm branches, bent at the ends like hockey sticks. The ball was compressed papyrus fiber, covered in dyed leather. Rural Egyptians still play a similar game.

Egyptian team rowing was like modern rowing sports. The leader, sitting at the back of the rowboat, called out high-pitched, rhythmic signals

to help all the rowers work as one and to encourage them to greater speed.

Long-distance running was a popular sport. It also had ritual significance for the king. As part of the *heb-sed* festival, the king ran a special course around the temple grounds. This ritual run confirmed that he was still physically and mentally fit to rule.

Egyptians enjoyed playing board games such as dog-and-jackal, *mehen* (“coiled serpent”), and *senet*. According to the Book of the Dead, they even played *senet* in the afterlife. Peter Piccione, professor of comparative ancient history at the College of Charleston in Charleston, South Carolina, thinks they played *senet* both for fun and for religious reasons. *Senet* was played with bone or ivory pieces on a board with 30 squares. It enabled living players to communicate with the dead. When played in the afterlife, *senet* let the dead player’s spirit move freely between heaven and earth. Four *senet* boards were found in Tutankhamun’s tomb.



Maiherpra was a Nubian nobleman who was buried in the Valley of the Kings. His tomb was discovered in 1899. It contained a wealth of objects, including a painting of him playing a type of board game.

MUSIC AND DANCING

Music and dancing were originally part of religious rituals, but they quickly became popular in everyday life. The wealthy hired small orchestras and dancing girls to entertain at banquets. Musicians played wooden harps, flutes, pipes, clarinets, and trumpets. They clicked finger-clappers, shook the *sistrum*, and rattled their bead necklaces and other jewelry in time to the music. In later years, they played lyres, lutes, oboes, and tambourines—all introduced by the Hyksos.

The *sistrum*, was a hand-held instrument made of wires threaded with metal disks and beads. It was used in religious rituals, to accompany everyday music, and for magical purposes. The *sistrum*’s shaking sounds were handy for driving away demons and bringing good luck to women in childbirth. The *sistrum* was sacred to the goddess Hathor.

The cat goddess Bastet is often shown in pictures rattling her *sistrum*. Many *sistra* include small cat figures.



CHAPTER 6

EGYPTIAN RELIGION, SCIENCE, AND CULTURE

TO THE EGYPTIANS, RELIGION AND MAGIC WERE “TWIN sisters.” For the average person, religion meant daily offerings and prayers honoring the gods of their local town or village and the familiar household gods. They believed deeply in the power of magical rituals, spells, charms, and protective amulets.

Over the course of Egyptian history, Egyptians worshipped more than 2,000 gods and goddesses, mostly minor local gods known only in one region or village. When a city became important, so did its gods and goddesses. Egyptians were more likely to adopt foreign gods than to persecute their worshippers. They were very tolerant about religion, especially compared to other ancient peoples.

To the Egyptians, there were no great religious truths that were the same for everyone. They had many views of the universe and several creation stories. The fact that all these views and stories were not exactly the same did not bother them a bit. Religion was magical, not logical.

The king and other high priests took care of the great matters—keeping the world running smoothly and maintaining *ma’at* in the universe. Their daily rituals made sure the sun would rise, the inundation would occur on schedule, and crops would grow.

The average family’s religion was focused on smaller matters—ensuring the health and safety of children and animals, protecting the home, ensuring fertility, gaining protection from everyday dangers and troublesome spirits, and getting safely through pregnancy and childbirth.

Every home had shrines to Bes, Taweret, or Bastet. These were fierce protectors of homes, babies, and women in childbirth. Families placed statues of these beloved gods and goddesses in wall niches, and

OPPOSITE

One of the many Egyptian gods was Osiris, who ruled over the dead and the underworld.

wore amulets and charms with their images. A small statue of Bes between two cats, currently in the British Museum, probably once had an honored place in the home of a workman's family. Household shrines also honored dead ancestors. If they were not remembered, these ghosts might stir up family trouble.

The Egyptians believed that their gods and goddesses could take any form—human, animal, a natural force (like the river), or any com-

Egyptian Gods and Goddesses

The Egyptians recognized thousands of gods and goddesses, but here are some of the major ones.

Amun (Amun-Re): God of Thebes, associated with the goose and ram, later associated with Re and Atum; Amun-Re, Mut, and their son Khonsu were worshipped as a trio

Anubis: Jackal-headed god, patron of embalmers, protector of tombs

Aten: The disk of the sun, worshipped as the one true god by Akhenaten

Atum: Sun god of Heliopolis, later associated with Re

Bastet: Cat-headed goddess, protector of women, home, and children, guardian of the Nile Delta, goddess of fertility, warmth, pleasure, the moon, and beer

Bes: Fierce, lion-headed dwarf god, protector of children and women in childbirth

Edjo (Wadjet): Cobra goddess, patron of Lower Egypt, protector of the king

Geb: Earth god

Hapi: God of the inundation

Hathor: Wise, gentle, cow-headed goddess, protector of heaven, earth, and the underworld, beloved by wives and mothers, wife of Horus, goddess of music and dance; the *sistrum* was her symbol; she is often shown wearing a horned sun-disk headpiece

Heket: Frog goddess, patron of fertility, protector of women in childbirth

Horus: Falcon-headed sky god, son of Isis and Osiris, protector of the king

Isis: Fertility goddess, mother of Horus, divine mourner, one of the four protectors of canopic jars

Khepri: Creator god, shown as a scarab beetle within the sun disk

Khnum: Ram-headed god; he created the earth and the first man on his potter's wheel

Khonsu: Warrior god, son of Amun-Re and Mut

Ma'at: Goddess of balance, order, and justice who judged souls after death; her symbol was an ostrich feather

bination. None of the gods or goddesses was completely good or completely evil. There was no all-evil “devil.”

THE JUDGMENT OF MA'AT

Even when eternal life was opened up to all, it was not guaranteed. At death, each person was judged on the scales of the goddess Ma'at.

Min: Fat, jolly, popular fertility god

Montu: Falcon-headed war god of the king

Mut: Wife of Amun-Re

Neith: Hunting goddess of Sais, one of the four protectors of canopic jars; her symbol was two feathered arrows

Nekhbet: Vulture goddess of Upper Egypt, protector of the king

Nephthys: Sister of Isis, Osiris, and Seth, divine mourner, one of four protectors of canopic jars

Nun: God of chaos who existed before the creation of the world

Nut: Sky goddess, wife of earth god Geb; her arched body forms the sky

Osiris: God of the underworld, the dead, the land's fertility, and the inundation, he offered eternal life to all; depicted as a mummified king

Ptah: Creator god of Memphis, patron of artisans and craftsmen

Re: Sun god of Heliopolis, later merged with Atum and Amun

Sekhmet: Fierce lion-headed goddess, she destroyed Egypt's enemies

Sebek: Crocodile god, associated with Seth

Selkit: Scorpion goddess, one of the four protectors of canopic jars

Seshat: Goddess of writing, the divine librarian, wife of Thoth

Seth: God of disorder, storms, violence, and mischief, brother and murderer of Osiris

Shu: Air god, paired with Tefnut; he was usually shown between Geb (earth) and Nut (sky)

Sopdu: Bearded guardian god of Egypt's eastern borders

Taweret: Pregnant hippopotamus, protector of fertility and women in childbirth

Tefnut: Moisture goddess, paired with Shu

Thoth: Ibis-headed god, husband of Seshat, vizier and scribe of the gods, inventor of writing, mathematics, languages, accounting, magic, law, and board games; he controlled the moon, stars, and seasons

Upuaut: Jackal god, avenger of Osiris, protector of the dead, opener of the ways into the underworld

The Egyptians believed that the soul lived in the heart. When a body was mummified, most internal organs were removed and placed in canopic jars. But the heart was returned to the body with a magic charm called the heart scarab. Canopic jars were special containers in which the internal organs removed from a mummified person were placed. There were four canopic jars. They contained the dead person's lungs, liver, stomach, and intestines. These jars were placed in the person's tomb, often inside an elaborately decorated, sealed chest.

Each dead person appeared in the Hall of Ma'at for judgment. Before an audience of gods and goddesses, the heart was placed on one side of a balance beam. On the other side was the Feather of Ma'at. If the person had lived a good life of *ma'at*, his heart was light as the feather and his spirit gained eternal life. If not, a fearsome monster (part crocodile, part hippo, part lion) immediately ate him and he was dead forever.

If a spirit was judged to be good enough for eternal life, the next step was a dangerous journey through the underworld. To get past the gatekeepers and monsters, he had to recite magic spells from the Pyramid Texts, Coffin Texts, or the Book of Going Forth by Day (also known as the Book of the Dead). Copies of these spells—illustrated scrolls for the wealthy, a few scraps of papyrus for the poor—were placed in tombs.

This page from the Book of the Dead of Hunefer depicts a judgment of Anubis by the goddess Ma'at.



After death, the spirit took three different forms: *ka*, *ba*, and *akh*. The *ka* was the spirit of life. At the instant of death, *ka* and the body were united. The *ka* stayed with the corpse. At the funeral, a ceremony called Opening of the Mouth magically activated the *ka*. The *ka* lived in the tomb, eating offerings of food and drink brought by the *ka* servant. In a pinch, the *ka* could magically activate foods listed on menus in the tomb.

The *ba* was the spirit of personality, and was shown as a bird with a human head. The *ba* could leave the body after death and roam the earth, visiting the dead person's favorite places.

The *akh* (which means "shining ghost") was the spirit of immortality. Its brightness reflected the person's accomplishments in life. Some people believed the *akh* shone in the sky as a star, some thought it traveled with the sun in the solar boat, and some said it lived with Osiris in the Field of Reeds—a kind of paradise afterlife.

From Predynastic times, the Egyptians believed that eternal life required the body to be preserved. As tombs became larger and fancier, they contained more and richer grave goods. These included clothing, furniture, jewelry, pottery, toys, weapons, food and drink, and more. This caused two problems the Egyptians never completely managed to solve. The first was preserving the corpses. The second was keeping the tombs safe from robbers.

In a mastaba or pyramid, the corpse was isolated from the hot, dry desert environment that naturally made it into a mummy. It was likely to rot. So the Egyptians invented artificial mummification. Mummies were laid in several coffins set one inside the other, and then enclosed in a stone sarcophagus. But many bodies rotted anyway. Many more were torn apart by tomb robbers, eager to get at the jewelry they were buried with.

The thought of all that buried gold, jewelry, fine linen, and luxury goods was more than some Egyptians could resist. Almost all tombs were looted, many within days of burial. The Egyptians tried to foil tomb robbers with burial chambers made of solid quartzite topped with multi-ton rock slabs. They tried false doors, trap doors, mazes, dead-end passages, dummy chambers, trick doors, hidden shafts, stairways leading nowhere, passages filled with huge stone blocks and rubble, curses inscribed on walls, and Medjay guards. Nothing worked.

After the pyramids were looted, Egypt's kings decided their mummies might be safer in caves carved into solid rock. But the rock-cut tombs in the Valley of the Kings, in the cliffs west of Thebes, presented no real difficulties for tomb robbers.

The graves of ordinary folks were seldom targets for looters, because there was nothing much to steal. Poor people were buried like their ancestors, in simple reed-lined pits in the sand. In many

How Mummies Were Made

Herodotus, in his *Histories*, described mummification. The dead person's family approached an embalmer, who offered three levels of service. He displayed small models so the family could see how the mummy would look, and they agreed on a price.

For top-of-the-line mummification, the skull was first cleaned by removing the brain through the nose using a long, thin iron hook. The skull cavity was then rinsed with chemicals.

Then, using a flint knife, the embalmer made a large cut in the abdomen. The lungs, liver, stomach, and intestines were removed and washed in a chemical bath. These organs were then packed, along with spices and natron (a sodium mineral used for drying), into four canopic jars.

Finally, the heart was removed and the emptied torso was cleaned with palm wine and fragrant spices. When it was ready, the heart was placed back into the chest cavity, along with a heart scarab. (Often made of

gold and jewels, this was a favorite target of tomb robbers, who hacked open mummies to get them.)

The mostly empty torso was now filled with rolls of linen, sawdust, and a mixture of myrrh, cassia, spices, and natron. The body was repacked and padded until the embalmer achieved what he felt was a natural look.

For special corpses, such as kings, there were extra steps to be taken at this point. For example, when Ramesses II was mummified, his nose was packed with peppercorns to preserve its unique shape, his fingernails and hair were colored with henna—a natural reddish dye, symbol of life—and the cut in his abdomen was covered with a solid gold plaque.

For all mummies, the next step was to stitch up the cut in the torso. Now the body had to be dried. The embalmer laid out the body on a six-foot-wide table covered with

cases, their bodies probably lasted longer than most expensively mummified kings.

AT HOME IN THE AFTERLIFE

Much of what we know about Egyptian life comes from tombs. Archaeologists have found paintings, murals and carvings showing everyday

natron, and piled more natron over the body to cover it completely.

After 70 days of drying, the body was uncovered, thoroughly washed, and rubbed with precious oils and fragrant ointments. Then it was wrapped head to toe in several layers of fine linen strips soaked in gum. The fingers and toes were wrapped individually. For really expensive mummifications, solid gold toenail and fingernail covers were put in place, and the tongue was replaced with a solid gold artificial tongue. During the wrapping process, amulets, charms, and scraps of papyrus with magical spells were placed between the layers of linen.

For less-expensive mummification, the embalmer simply injected oil of cedar into the corpse and packed it in natron. The oil dissolved everything but the skin and bones. After 70 days, the oil was drained off, carrying away the dissolved flesh. The dried corpse was then returned to the family for burial, with no linen wrapping.

In 1994, two scientists decided to test Herodotus's mummy recipe. American Egyptologist Bob Brier, and a colleague, the director of the Maryland State Anatomy Board, prepared a modern mummy, using a body that had been donated to science. (Brier even recited ancient prayers as the body was tightly wrapped in linen strips.) But the team discovered some problems. For example, removing the brain through the nostrils proved much more difficult than Herodotus described.

This first and only modern mummy, kept at room temperature for more than 15 years, shows no signs of decay. His afterlife has been busy, though. Scientists all over the world have used samples of his body to learn about how these tissues look and behave when preserved, and to practice research techniques to be used on actual ancient mummies. In particular, the modern mummy has proved valuable in developing techniques for efficiently extracting DNA from the tissues of ancient mummies. This contributed to the identification of the mummy of the great Egyptian female pharaoh, Hatshepsut, in 2007.

From Memos to Mummies to Museums

Many of the ancient Egyptian papyrus scrolls held by Duke University in Durham, North Carolina, came from mummy cartonnage from a cemetery near Herakleopolis, south of modern Cairo. Cartonnage is a covering of several layers of papyrus paper used on some Late Period mummies. After being wrapped with linen strips, the mummy was covered with sheets of cartonnage and coated with a thick layer of plaster. The papyrus used for cartonnage often came from recycling bins in Egyptian government and administrative offices.

activities, statues of the tomb owner and his family and animals, food and drink, “magical menus,” and household equipment and supplies. Detailed wooden models of typical home and farm scenes were placed in tombs. These kitchens, breweries, workshops, gardens, and boats could be magically activated as needed. The houses of the living were recreated in the houses of the dead.

During the Old Kingdom, the companions the king chose to accompany him in eternal life were not permitted to join him in the solar boat and sail the skies beside him. They were confined to their tombs in the afterlife. This is why they went to so much trouble and expense to store away plenty of food, drink, and luxury goods.

After the Old Kingdom, the afterlife was opened to all. The king still went up to the heavens after his death. But everyone else was no longer limited to spending eternity in tombs. Rather, people could choose what afterlife they wanted.

The rich wanted comfort and luxury, so the goods they brought along in their well-equipped tombs were just like the estates and palaces they enjoyed on earth—only better. Farmers and peasants also pictured the ideal afterlife as being much like earthly life, without the bad parts. In the afterlife’s Field of Reeds it was never too hot, there was no illness or injury, flies did not bite, the inundation was always just right, and grain grew 15 feet high.

The spirits of the dead required daily nourishment. Bakers, brewers, and other living *ka* servants who lived in necropolis villages prepared and served daily meals to the spirits. These practical *ka* servants removed the food at the end of each day and took it home for supper. In case *ka* servants forgot their duties, every tomb owner had menus of his favorite meals written on the walls of his tomb. If need be, his own *ka* could magically bring the menu items into existence.

A modern Egyptian tradition called el-Arbeiyin recalls these ancient beliefs. After a person has been dead for 40 days, family members bring food to his grave and distribute it to poor people who have gathered there.

AGRICULTURE: BACKBONE OF THE ECONOMY

Egypt’s agricultural economy was built on a technique known as basin cultivation. Natural depressions (low areas) that were flooded by the inundation were surrounded with berms and dams to hold in the water. Canals let water in or out as these basins as needed. In addition, dur-

The Osiris Legend

One religious story loved by everyone, from kings to peasants, was the legend of Isis, Osiris, and Horus. Osiris was the ancient king who brought civilization to Egypt. He married his sister, Isis. But his brother, Seth, also fell in love with Isis, and wanted to be king himself.

Seth tricked Osiris, then locked him in a coffin and threw it into the river. Isis was filled with grief and searched everywhere for Osiris's body. She finally found it at Byblos (on the Mediterranean Coast in what is today Lebanon). Osiris was mummified, and, as a mummy, he made Isis pregnant. She gave birth to their son, Horus.

Seth found Osiris's mummy, chopped it into pieces, and scattered the pieces throughout the Nile Valley. Once again, Isis searched. She gathered up all the pieces and put them back together.

When Horus grew up, he set out to take revenge for his father's murder. In a huge battle, he injured Seth so badly that Seth became unable to have children. Seth tore out one of Horus's eyes. The earth god, Geb, declared Horus the winner of the battle and awarded

him power over Upper and Lower Egypt. The eye of Horus that Seth tore out became the sacred *wedjat*, a powerful magical symbol of wholeness used in good luck charms.

The Osiris story was known and loved by Egyptians throughout the dynastic era. It explained why the king was entitled by the gods to rule Egypt. When a king took the throne, he became Horus and inherited the two lands that Geb awarded Horus.

The Osiris story also offered the promise of eternal life to all people. Just as Isis brought Osiris back to life, the gods would also bring them back to life—if they lived good lives of *ma'at*. It also inspired the practice of mummification, which was intended to make all people like Osiris.

In ancient times, coronations and jubilee festivals were often held during the Festival of Khoiak, which was an annual observance of the death and resurrection of Osiris. Modern Egyptians continue this tradition by exchanging gifts of colored eggs at Sham el-Nessim—a springtime festival celebrating the rebirth of vegetation and life.

ing prosperous times desert land was irrigated and marshy land was drained to make more farmland.

The inundation often destroyed or moved boundary markers and damaged or destroyed canals, berms, ponds, and dams. Once the floodwaters were gone, farmers helped government officials re-measure croplands. Damaged water control systems had to be rebuilt or repaired swiftly, so planting could begin.



This mural painting shows a man cutting wheat. Bread and beer made from wheat were the basic foods for everyone in Egypt, from farmers to kings.

The recently soaked fields needed little or no plowing. The farmer scattered seeds and turned his animals and children loose in the fields to trample it in. A farmer's tools were simple. They included primitive picks and hoes, baskets, and heavy pottery water jars carried across the shoulders on frames called yokes.

Farmers grew two kinds of wheat, emmer (*Triticum dicoccum*) and spelt (*Triticum spelta*). They also grew several varieties of barley (*Hordeum vulgare*), mostly for beer. Farmers worked together to harvest one field after another as quickly as possible, using wood sickles with flint blades. It was hot, backbreaking work. But they tried to make it easier with competitions, work songs, and many jars of beer. The stalks of grain were gathered into bundles and carried by donkeys to the threshing floor in the village.

Emmer and spelt both require vigorous threshing (beating the grains out of their husks) before they can be ground into coarse flour. Animals and children trampled the grain to separate out the husks. The grain was tossed into the air and the lighter husks blew away. The heavier grains fell into large, flat baskets. The grain was then put through a coarse filter to remove pebbles and insects. Husks and stems were saved for making mud-brick. The grain was measured, packed into sacks, and stored in granaries, awaiting the tax collector.

The third major crop was flax (*Linum usitatissimum*). Bundles of flax fibers were carried off to be prepared for spinning, weaving into cloth, and braiding into rope—after the tax collector had taken his cut.

CRIME AND PUNISHMENT

Egyptians were courteous, law-abiding people. Society was generally orderly and peaceful. Men and women were treated equally according to Egyptian law and custom. So were the members of different social classes.

Egyptian law was based on custom, tradition, and *ma'at*. An offense against law and order was an offense against *ma'at*. Laws covered crimes, arguments about land, business deals, wills, property transfers, and arrangements made for the eternal care of tombs.

Legal arguments could be complex. One such case about land ownership among several generations of a feuding wealthy family went on for decades; there were many trials overseen by a series of viziers.

All judgments were made in the king's name. There were no professional lawyers. Trials were speedy and punishments were swift. Imprisonment was considered expensive and unproductive. Prisons were only used as courthouses, storehouses for legal records, and to hold prisoners who were waiting for their trial.

For serious offenses, a criminal would have his nose or ears, or both, cut off. He might also be sentenced to hard labor in the mines of Nubia, or be sent to a faraway frontier fort. Disgrace and banishment were considered worse than death. For lesser crimes, beatings and whippings were common. Occasionally, an entire family was punished for a relative's crime.

The death penalty was rare. It had to be approved by the king and was reserved for only the most horrible crimes. Children who killed their parents faced especially terrible deaths, such as being eaten alive

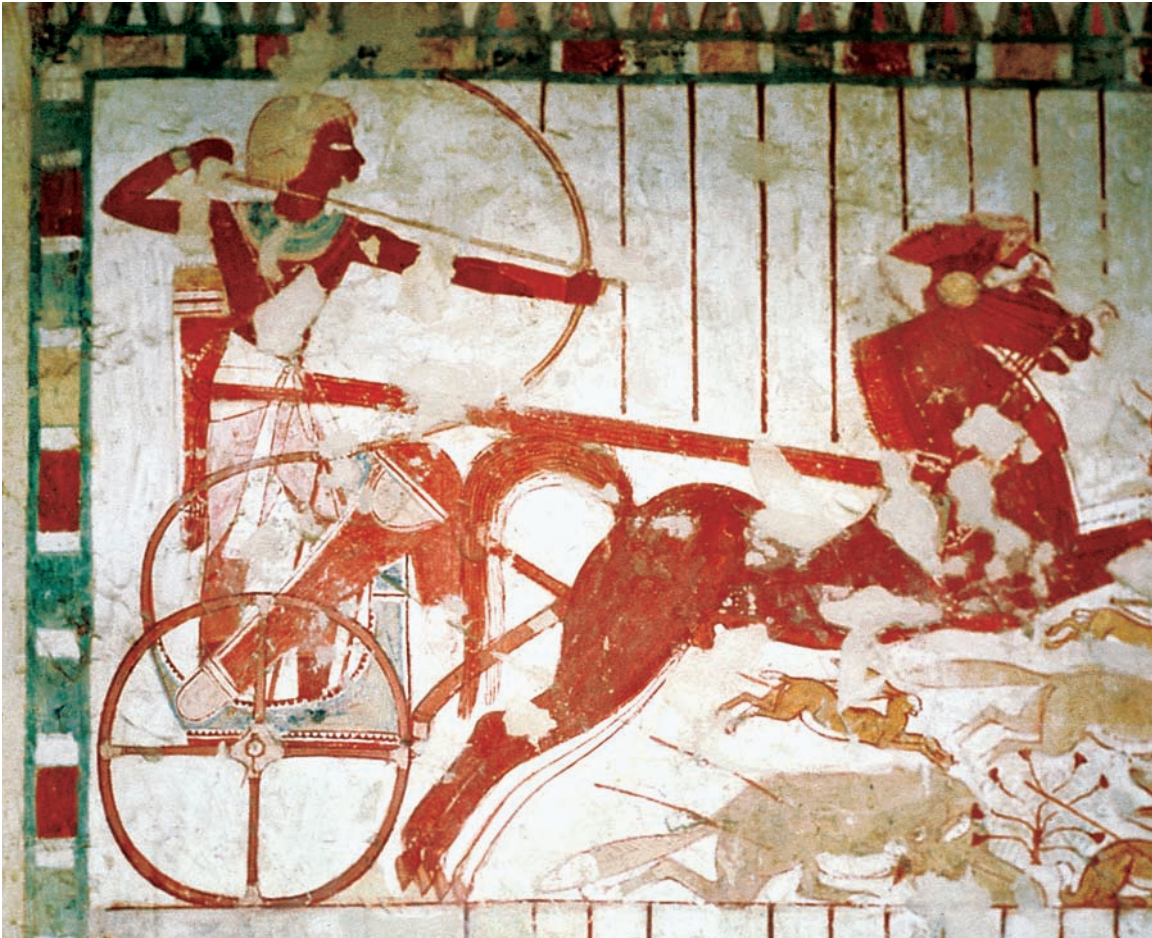
A chariot is a light, fast cart pulled by a horse. This one is ridden by a man armed with a bow and arrows. He might be a soldier, or he might be hunting fast animals such as gazelles.

by crocodiles. A merciful king might allow a condemned criminal to commit suicide.

While this all may sound harsh to us today, Egypt's laws and punishments were generally less cruel than those of most other ancient cultures.

WEAPONS OF WAR

The Egyptians were not warriors by nature. Their battle gear was mostly adapted from hunting weapons. Soldiers used bows, spears, javelins, and daggers, and carried animal-hide shields. Much of the Egyptian army was made up of foreign mercenaries who favored their own traditional weapons and protective gear.



During the New Kingdom, the Egyptians became famous for their *khepesh* swords—curved blades shaped like the leg of a bull. The king often carried this weapon.

The Hyksos introduced the horse and chariot, which the Egyptians used mainly for speed. Their chariots were lightweight wicker vehicles that carried a driver and an archer or spear thrower. In battle, chariots were used in large groups. Diplomats and couriers also used chariots for speedy travel.

MATHEMATICS

The Egyptians were interested in practical applications of mathematics, not theories. They were very good at manipulating numbers, and used their skill to solve real world problems faced on the job by engineers, tax collectors, construction supervisors, and military officers. The major surviving Egyptian mathematical document, the Rhind Papyrus, is a collection of mathematical problems with solutions.

The Egyptians multiplied by repeated addition, and divided by repeated subtraction. In other words, they calculated 2 times 3 by adding 2 plus 2 plus 2. They calculated 9 divided by 3 by seeing how many times they could subtract 3 from 9. They used fractions, but only with a one in the numerator, such as $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$. They did not know about the concept of zero.

They used a hieroglyphic decimal system. Units were represented by vertical strokes arranged in rows. A spiral represented 100, 200 was two spirals, 10,000 was a finger, 100,000 was a tadpole. A god with upraised arms meant 1 million—or “I can count no further.”

Accounting, bookkeeping, land measurement, and setting the boundaries of land (called surveying) were very advanced. Accountant-scribes knew how to determine accurate property boundaries and calculate crop yields based on land area. They could estimate labor and materials needed for construction projects. They could also figure out how much food and other goods a particular district would use, based on its population.

They were skilled at drawing plans. For designing complexes of buildings, they used a primitive theodolite, a surveying instrument that measures angles. They used practical mathematics to figure out the best ways to transport and put up huge blocks of stone, massive obelisks, and giant statues.



CONNECTIONS

A Calendar That Lasted

The Egyptians invented the 365-day calendar. They actually used three calendars: a lunar (based on the cycles of the moon) agricultural calendar tied to the seasons, a civil calendar based on the 365-day year, and a lunar religious calendar based on the moon but tied to the civil calendar.

The agricultural year had three seasons of four months each. The seasons were *akhet* (inundation), *peret* (sprouting, growth), and *shemu* (warm season, harvest, and possibly the source of the word “summer”). New year’s day, the first day of *akhet*, occurred each summer when the star Sopdet (Sirius) rose precisely at sunrise.

The civil year had 360 days, divided into 12 months of 30 days each. Each month had three 10-day weeks called *decades*. To make

365, five days were added, celebrated as the birthdays of five gods.

Misalignments between the calendars made keeping track of religious festivals (often tied to phases of the moon) difficult, so the Egyptians also invented a lunar religious calendar.

The inconsistencies among their calendars did not trouble the Egyptians. Their great insight into calendar making was that any calendar is artificial, so it might as well be simple, practical, and useful. Multiple calendars worked fine for them for 3,000 years.

The calendar we use today traces its roots to the Egyptian civil calendar. When Julius Caesar needed a simple, accurate calendar for the Roman Empire, that is the one he chose.

ASTRONOMY

The Egyptians were practical astronomers, too. They used the stars mainly to position buildings and for timekeeping. When Khufu built the Great Pyramid, Egyptian astronomy was at its height. An Egyptian catalog of the universe lists five constellations, including crocodile, ox leg (the modern Great Bear), and Osiris holding a staff (the modern Orion).

Egyptian astronomers divided what they saw in the night sky into “unwearied stars” (planets), “imperishable stars” (stars that were always visible above the horizon), and “indestructible stars” (stars that did not move). They knew about the planets Jupiter, Saturn, Mars, Venus, and possibly Mercury.

They divided each day into 24 hours. The length of each hour varied with the season. They used sundials, shadow clocks, and water clocks. These marked time by measuring shadows or dripping water.

HEALTH AND MEDICINE

Egypt's doctors were famous for their knowledge and skill. The Edwin Smith Papyrus (from about 1600 B.C.E.), a kind of casebook for surgeons, divides injuries and disorders of the head and chest into treatable, non-treatable, and "maybe" cases. The Greeks, Romans, Persians, and Arabs admired and borrowed Egyptian medical practices.

Doctors treated problems that were common at farms and construction sites. These included stiffness, sprains, crushing injuries, broken bones, wounds, burns, and skin disorders. They used splints (a stick that help a broken bone in place), bandages, and compresses (bandages that pressed a wound to stop the bleeding). They also cut off arms and legs, and performed simple surgeries with saws, knives, drills, hooks, and grasping tools called forceps.

Although medicine and embalming (preparing the dead for burial) were closely related, Egyptians had little understanding of the internal workings of the human body. Corpses were sacred, so they were not to be studied or dissected.

Although Herodotus considered the residents of Upper Egypt to be the healthiest people in the world, mummies and skeletons show that Egyptians suffered many ills. Most had rotten teeth. Their bread was full of sand and grit from grinding stones, and it wore down their tooth enamel until the roots were exposed. This causes abscesses (swollen, infected areas) and severe pain.

Except for uncomplicated treatments such as setting broken bones and stitching wounds, magic spells and amulets were the best remedies Egyptian doctors had for most health problems. Diseases were blamed on demons or ghosts. Prescriptions called for applying potions while reciting magical spells. Potions included mixtures of leaves, herbs, fruit juices, dates and figs, honey, tannic acid, resins, castor oil, human milk, animal fat and blood, animal fur, snake grease, and goose grease.

LANGUAGE AND WRITING

Hieroglyphics, Egyptian picture-writing, was used for almost 35 centuries for religious texts and inscriptions on monuments. The earliest hieroglyphics, which are ownership and business records, appear on stone vases and official stamps.

The Key to Hieroglyphics

In 1799, a stone tablet was discovered at Rosetta, in the Nile Delta. On this stone, (which came to be known as the Rosetta Stone), the same message appears in three languages: hieroglyphics, demotic, and Greek. Greek was well known, so the key to hieroglyphics seemed to be on this stone.

Scholars worked intensely, but made little progress. In 1822, French scholar Jean-Francois Champollion (1790–1832) hit on the key concept that hieroglyphic writing is neither purely ideographic (each sign stands for an idea) nor purely phonetic (each sign represents a sound). It is a combination of both.

A word was spelled out in phonetic symbols. At the end, a final picture was added. This last symbol was not supposed to be read with the other signs, but was an ideogram—a pictorial clue to the word's meaning. Vowels were not written. So the word *deshret* (desert), for example, was written with the pictograms for *d-sh-r-t*.

Hieroglyphics are beautifully designed drawings of birds, animals, people, buildings, and everyday objects. Throughout most of Egyptian history, 600 to 700 individual hieroglyphic symbols were in use. The last known hieroglyphic inscription was

carved on a temple wall at Philae in the year 394. Knowledge of hieroglyphics was then lost—until 1822. Today, the phrase “Rosetta Stone” is used to refer to anything that is key to unlocking a mystery of communication.



The famous Rosetta Stone, dating from 196 B.C.E. and discovered in 1799, was the key to understanding Egyptian hieroglyphics. The same text appears in hieroglyphics on top, then demotic, then Greek.

But hieroglyphics quickly became too difficult for everyday use. A flowing, script-like writing called hieratic (from the Greek word *hieratikos*, which means “priestly”), developed from hieroglyphics. This was used for almost all writing.

Later, busy scribes invented a kind of shorthand, called demotic (from the Greek word *demotikos*, “popular”). This enabled them to write things down very quickly. At the end of the dynastic era, a script developed from the Greek alphabet, called Coptic, came into wide use.

Egypt’s best-known literary works are collections of magical spells to aid the dead in their journey through the dangerous underworld on their way to eternal life. In the Old Kingdom, spells called the Pyramid Texts were carved on the walls of royal tombs. In the Middle Kingdom, similar spells, the Coffin Texts, were painted or carved on coffins.

The most famous collection of religious-magical literature is called the Book of Going Forth by Day. It is also known as the Book of the Dead. It includes 90 chapters of magical spells that were copied on papyrus scrolls and placed in tombs. Many surviving copies are beautifully illustrated in color. A rich man might have an illustrated scroll 120 feet long, with spells covering every danger. A poor man would get just a spell or two on a scrap of papyrus.

The Middle Kingdom was the golden age of nonreligious literature. Egyptian teachers loved what was known as “wisdom literature.” This was a collection of proverbs and instructions for living a life of *ma’at*. Stories such as *The Tale of Sinuhe*, *The Tale of the Eloquent Peasant*, and *The Shipwrecked Sailor* were so popular that they were copied and repeated for centuries. The moral of many of these stories was, “There’s no place like home.” In the New Kingdom, love poetry also became popular.

Collections of papyrus scrolls (stored in boxes and pottery jars) in private homes and temple schools were called Houses of Life. These libraries served religious and practical purposes. They contained works of religious, scientific, and popular literature.

ARTS AND ARTISANS

Art was created for religious, symbolic, or magical purposes, not artistic expression. Each part of a scene had to deliver a very specific message. Though most scenes were familiar pictures based on very typical themes, the best Egyptian art works are still graceful and lively.

Egyptian artists were careful observers of nature and could realistically draw what they saw. But in depicting people, they followed

IN THEIR OWN WORDS

The Book of the Dead

Once a dead person's heart had been weighed on the scales of Ma'at and found to be lighter than Ma'at's feather, the person's spirit was free to make his way through the underworld to the Field of Reeds, the Egyptian heaven. But many challenges and obstacles lay ahead. The paths through the underworld were guarded by various monsters and gatekeepers, and the spirit had to avoid many traps and solve many puzzles along the way.

The vital information he needed—passwords, secrets, answers to riddles, instructions to calm hungry beasts—was contained within the chapters of the Book of Going Forth by Day, often called the Book of the Dead. Each “chapter” is a formula, or magical spell that enabled the spirit to overcome a specific obstacle. So the more “chapters” you could afford to include in the copy that went into your coffin or tomb, the better.

*Formula for breathing air and having
power over water in the necropolis:
O Atum give me the sweet breath that is
in your nostril
I am the one who embraces that place
amid Wenu
I am who guards that egg of the great
goose
As I am strong, it is strong, as I live, it
lives, as I breathe air, it breathes air
Formula for not allowing the heart of a
person to be removed from him:
My heart of my mother, my heart of my
mother, my heart of my earthly being
Do not stand against me as witness
beside the lords of the ritual
Do not say against me, he did do it,
about my actions
Do not make a case against me beside
the great god*

(Source: “Book of the Dead,” Digital Egypt for Universities, University College, London. Available online. URL: <http://www.digitalegypt.ucl.ac.uk/literature/religious/bdfront.html>. Accessed January 12, 2008.)

long-established traditions. Heads appear in profile (from the side), although the eyes are face-on. The body is turned toward the viewer, but the legs are twisted into profile. All five fingers are extended and visible.

The king is always much bigger than anyone else. Nobles are larger than commoners. Men are larger than women. Children are tiny, but with adult features. Everything is drawn with bold outlines and no shading or shadows. There is no doubt about the scene's subject and purpose.

Each scene was carefully planned and designed. Artists and craftsmen used standardized proportion grids for showing objects

and people. Before beginning to paint or carve, the artist drew a grid of horizontal and vertical lines of predetermined size and spacing on his work surface (a tomb wall, for example). Depending upon the rank and social position of the person being shown, he or she was made a specific size in relation to the other figures in the composition.

Also, each figure had to be structured in a specific way—a person was a certain number of “heads” tall, the legs were a certain length in relation to the torso, and so on. These very specific relationships were established early on and artisans almost always followed them.

These conventions and proportions had deep religious, magical, cultural, and social significance. As long as the artist followed the conventions, he was free to arrange people and objects as he liked.

The Egyptians loved vibrant color. Paints were manufactured from minerals and plants. Colors included black (from lead ore and lampblack), blue and green (from malachite and copper), white (from limestone), and brown, red, and yellow (from colored earth and plants). Colors had religious and symbolic meanings. People were painted either red-brown (men) or yellow (women) to indicate they were alive, or green or black if they were dead. Osiris was green, Amun-Re blue. Other gods had yellow skin because their flesh was made of gold. White symbolized hope or pleasure. Red meant evil.

Most statues were idealized forms, not personal portraits. They were designed for specific settings, such as a tomb or temple. Sculptors worked with mostly stone-age tools, in alabaster, basalt, diorite, granite, limestone, marble, and quartzite. Eyes were made of white quartz, rock crystal, ebony, and copper for a lifelike quality. Many sculptures were painted.

In early Predynastic times, the Nile Valley still had some large trees, and woodworking achieved its highest level. Later, woodworkers were at a disadvantage because of the lack of good quality large pieces of wood. Native woods were available only in small sizes and quantities. Imported wood—cedar, cypress, ebony, juniper, fir, yew, and oak—was used for columns, temple doors, flagpoles, fine coffins, furniture, and seagoing ships.

The arts of pottery and stonework were also highly advanced. Clay-heavy Nile mud was the raw material for most pottery. Beer and wine jars, oil jars, mugs, plates, cosmetic pots, canopic jars, figurines, *ush-abtis*, and most coffins were made of mud earthenware. The types and styles of earthenware found at ancient sites provide important clues for establishing the dates the site was in use.

Tools Without Iron

For most of the dynastic era, Egyptians used tools and weapons made of flint, wood, copper, and some bronze. Copper, from Nubia and the Sinai, was their primary industrial metal. By the New Kingdom, the Egyptians had learned to make bronze by adding tin to copper. They did not use iron as an industrial metal until the Twenty-first Dynasty. This was long after it had come into common use in the Near East.



CONNECTIONS

Papermaking

Papyrus paper was made in single sheets and in long scrolls. Our word “paper” comes from the Egyptian word *pa-pe-yo*, “that [plant] of the Nile.”

The papyrus plant (*Cyperous papyrus*) grew in great quantities in the shallow waters of the Nile and in the swamps and wetlands surrounding the river, especially in the delta. Papyrus was invented before true paper (which is made from wood and was invented by the Chinese).

Trusting to their amulets and magical spells, papyrus harvesters waded into crocodile-infested wetlands to gather it. When demand increased, they grew papyrus as a crop.

Egyptian papyrus makers cut the triangular papyrus stalks into thin strips. They softened these by soaking them in muddy water. They then layered the flattened strips horizontally and vertically into a kind of mat, and pounded them together. Finally, they smoothed and polished the papyrus with a stone or bone.

The result was a smooth, portable, lightweight, inexpensive, and reasonably long-lasting writing surface that took ink rapidly and well.

Egyptians were already making papyrus by 4000 B.C.E., and the oldest written papyrus scrolls are 5,000 years old.

Because the papyrus plant was common in Egypt and rare elsewhere, papyrus paper was, for a long time, found only in Egypt. It was prized all over the known world. Throughout the dynastic era and after, papyrus was one of Egypt’s chief exports. The availability of Egyptian papyrus helped encourage the development and advance of writing in many cultures around the Mediterranean.

Papyrus fell out of use by the ninth century C.E. It was replaced by more elegant (and much more expensive) parchment, made from animal skins. The cost of parchment, and the fact that it was hard to get, made the written word too expensive for most people—even educated people.

Just as papyrus was readily available to every Egyptian who could read and write, today inexpensive paper is easily available to all. The average American uses about 700 pounds of paper products each year. Today, papyrus is no longer grown in Egypt.

Faience (quartz or clay covered with a fired glaze) was popular in Egypt as far back as the Early Dynastic Period. The Step Pyramid of Djoser has faience tiles. Faience was used for amulets, small objects such as bowls and statuettes, and decorating other objects. The most popular colors were blue and greenish blue, recalling the Egyptians’ favorite gemstones, lapis lazuli and turquoise.

Beginning in the Eighteenth Dynasty, artisans cut and molded glass to create beads, amulets, perfume jars, vases, and small figures in

a rainbow of colors. Glassblowing (forming melted glass into intricate shapes) was unknown in dynastic times.

Jewelry for the wealthy was made of gold, which was hammered, cut, or shaped. Gold jewelry was decorated with gemstones such as amethyst, turquoise, rock crystal, malachite, lapis lazuli, onyx, peridot, hematite, jade, coral, carnelian, garnet, jasper, agate, beryl, and rare emeralds from the eastern desert.

Amulets and ornaments of faience, bone, and pottery were mass-produced for ordinary folks. Silver was rare and little used. Electrum, a rare, highly-prized natural mixture of gold and silver, came mostly from Upper Egypt and Nubia. Much of the work of Egyptian jewelers was sealed up in tombs, stolen, and melted down by looters. The surviving pieces only hint at the fabulous treasures that were lost.





EPILOGUE

TODAY, THE ARAB REPUBLIC OF EGYPT IS HOME TO MORE than 80 million people. Most are packed into the same 550-mile-long narrow canyon that was ancient Egypt. At the height of Egypt's ancient empire, that land supported no more than 3 to 4 million people. Today, things are very crowded.

More than 45 percent of Egyptians live in a few huge cities, such as Cairo (over 7 million), Giza (5 million), and Alexandria (almost 4 million). About 32 percent of Egyptians work in agriculture and related fields. Another 17 percent work in industry; 51 percent staff service industries, such as hotels and restaurants.

Modern Egypt's borders have not changed much since ancient times. Egypt is bordered by Libya on the west, Sudan in the south, and Israel on the northeast. Most of Egypt's land area is barren, empty desert. Only about 3 percent (less than 8,000 square miles) of Egypt's 385,000-square-mile area can be farmed.

Modern Egypt shows little trace of ancient Egyptian culture. It is culturally and religiously an Arab, Islamic nation. More than 90 percent of Egyptians are Muslims (mostly Sunni). There is a small community (perhaps 9 percent of the population) of Coptic Christians, and areas of southern and middle Egypt are heavily Coptic.

Egypt is a democracy. Most Egyptians practice a moderate form of Islam. However, Egypt is facing pressure from more traditional, conservative groups who would like to see Islam have more influence over day-to-day affairs. Conservative Muslims worry that Western influences will weaken and eventually erase the traditions that have been

OPPOSITE

More than 90 percent of Egyptians today are Muslim. Mosques like this one in Cairo dot the country.

Egypt Is the Nile

An ancient Egyptian viewing a satellite photograph of northeastern Africa would quickly recognize *kemet*. He would see *iteru*, the river, and along it the narrow band of lush green vegetation. He would also see *deshret*, the sandy, lifeless desert that the waters of the inundation never reached. And there would be the same steep, rocky cliffs that bounded his world. High on the western desert plateau, the ancient Egyptian would probably recognize the string of oases, stretched like widely-spaced green beads against the gold-red desert sands.

The national boundaries of the modern Arab Republic of Egypt encompass many thousands of square miles of *deshret*. But to modern Egyptians, just as to their ancient ancestors, the narrow Nile gorge, and espe-

cially the thin green ribbon bordering the Nile, is “Egypt.” Most Egyptians are still crowded into that narrow corridor. Although the Aswan High Dam has opened up many previously uninhabitable areas to cultivation and settlement, some Egyptians still choose to live close to the river that has given life to their land for so long.

At night, especially when the moon is full, modern Egyptians who are lucky enough to own horses are fond of riding them deep into *deshret*. The desert is too harsh to travel by day, but at night is a magical place—cool, windy, empty, and endless.

Although they glory in galloping by the light of the Bastet’s eyes, modern Egyptians, like their ancient ancestors, always return to their river, their homeland, their *kemet*.

part of Islamic countries for centuries. Moderate Muslims worry that Egypt will become a theocracy (a nation ruled by religious officials). The conflict is ongoing and has, at times, turned violent.

Both Christians and Muslims speak Arabic. Many educated Egyptians are also fluent in French and English. About 83 percent of males and 59.4 percent of females over age 15 can read and write. This is a big jump over ancient times, when just 2 to 5 percent of the population could read and write. There are about 8.6 million Internet users in Egypt.

Life expectancy has also increased since ancient times. Men can expect to live to 69.3 years, women to 74.5. (The ancients did well hoping for age 30.) But this is still far behind the industrialized nations of western Europe and North America. For every 1,000 babies, 28 will die soon after birth. This is much better than it was just a few years ago. But it still puts Egypt behind most industrialized countries.

With only about 2.3 million motor vehicles in the country, it is clear that many Egyptians still get around the way their ancestors did—on foot and donkeys.

Egypt's major industries are cloth, food production, and tourism. Tourists in Egypt spend about \$7.4 billion dollars a year. Mostly they go to see ancient ruins and monuments. But many of these sites are now

An ancient Egyptian would recognize this modern map of Egypt with its major cities still clustered around the life-giving waters of the Nile River.



Grave robbers have done a lot of damage to Egyptian tombs over the centuries, as this broken sarcophagus shows. Tombs have often been looted by people seeking gold and jewels. They damage the fragile artifacts while grabbing the riches.

threatened by rising water and other ecological problems—not to mention looting.

Egypt's location at the crossroads of the troubled Middle East, and some well-publicized violent incidents, have also threatened the vital flow of tourists. So far, worldwide fascination with ancient Egyptian culture has overcome tourists' nervousness.

LOOTING EGYPT'S HERITAGE

Tomb robbing is an ancient tradition. Merykare, king during the troubled First Intermediate Period, admitted to his son that even he had looted tombs.

Ancient and medieval tomb robbers melted down thousands of gold objects. They ripped apart mummies to find jeweled amulets. They destroyed or vandalized inscriptions and paintings. Later reli-

gious groups were offended by the religion of ancient Egypt, so they destroyed temples and monuments. Temples were converted to Christian churches or Muslim mosques.

The builders of medieval Cairo stripped the fine white limestone casings off the pyramids. Early Arab explorers were unable to find an entrance into the Great Pyramid. So they broke in by heating the surface with huge fires, then pouring on cold vinegar. Then they battered their way through the pile of shattered rocks.

French-Italian Bernadino Drovetti (1776–1852), one of the most ambitious looters, put together huge collections of ancient artifacts, which he



sold to museums in Sardinia, Turin, Paris, and Prussia. Agents for Western cities transported massive obelisks, sarcophagi, and monumental sculptures across the ocean to new homes in parks and urban squares.

Looting building stone and treasure continued well into the 1800s. In *The Search for Ancient Egypt*, archaeologist Jean Vercoutter reports that “between 1820 and 1828, 13 entire temples disappeared, their stones either used to build factories or ending up in lime kilns; and no one will ever know how many statues and reliefs suffered the same fate.”

Many looted artifacts eventually arrived in the hands of scholars who could properly care for them. Vercoutter comments, “The objects that were pillaged [stolen] . . . were at least preserved for posterity.” But tragically, much was destroyed in the rush for treasure. In an effort to stop the plundering, the Egyptian government established the Antiquities Service and founded the Cairo Museum in 1835.

Despite heroic efforts by Egyptian authorities, the looting continues. It is illegal to remove ancient objects (known as antiquities) from Egypt, or to sell them. Thousands of sites are under constant guard. Because of this strong enforcement of laws, smuggling antiquities is not as widespread in Egypt as it is in other areas of the world. But all of Egypt is one huge archaeological site. Modern thieves drive right up to ancient tombs with pickup trucks and chainsaws.

Many Egyptians are very poor. There is not enough government money to pay for all the security that is needed to guard the ancient sites. The price of Egyptian antiquities on the international black market (a market for illegal goods) continues to rise. The temptations are enormous. Objects have even disappeared from display cases in the Cairo Museum.

Museum storerooms throughout Egypt are jam-packed with artifacts. Many have never been properly recorded, studied, or even counted. Even some archaeologists cannot resist the temptation. In the summer of 2003, an archaeologist was caught at the Cairo airport leaving the country with a suitcase full of small objects.

THE ASWAN HIGH DAM

The completion of the Aswan High Dam in 1965 was a turning point for Egypt. The dam brought total control over the Nile’s famously unpredictable inundation, turning the river into a long irrigation canal. But the dam has been both a blessing and a curse for Egypt.

A Modern Ancient Egyptian

Dr. Zahi Hawass, secretary general of the Supreme Council of Antiquities in Egypt, is the man in charge of ancient Egypt. Hawass is an internationally known, truly modern Egyptian. He got his doctorate degree from the University of Pennsylvania. He is a tireless, fearless, enthusiastic, well-educated man. He is a hands-on archaeologist, an author and lecturer. He is very controversial. But most of all, he is a man on a mission. He wants to save the past from the present, on behalf of the future.

First, Hawass intends to stop the continuing destruction of ancient Egypt's monuments. That alone is a huge job. But he also intends to bring home to the Nile Valley a number of famous and significant ancient Egyptian treasures that have ended up elsewhere. His targets include the Rosetta Stone

(currently in Britain), the famous bust of Nefertiti (currently in Germany), and many more. Museum directors around the world worry when they see Hawass coming!

Egypt is a very poor country and is extremely dependent on income from tourism. But from Hawass's post as guardian of the ancients, he sees that those tourists are helping to destroy the very wonders they come to see. The pyramids, temples, and tombs, the paintings, carvings, and statues, the riches (in gold and in knowledge) still waiting beneath the Nile Delta, are in danger. The sweat and footsteps of millions of tourists, theft and vandalism, smuggling and illegal trade, fumes and vibrations from tourist buses, air pollution, climate changes, and much more threaten Egypt's ancient heritage.

The dam enables Egyptians to store two to three years of Nile flow in a new lake called Lake Nasser. They can then release it in a controlled way for irrigation. This has been a great benefit to agriculture and health. It protected Egypt from massive regional droughts in 1972–1973 and 1983–1984. The dam also saved Egypt from catastrophic floods in 1964 and 1973.

Crops can now be grown year-round. The dam immediately provided irrigation for more than 1 million acres of new farmland. Egypt now has many more places where it can build towns and factories—a great benefit to industry. The dam also generates 2,500 megawatts of electricity without using fossil fuels such as coal and oil.

On the other hand, the loss of the more than 100 million tons of sediment per year that the Nile used to carry as part of the inundation

Under Hawass's leadership, new archaeological digs in much of the country have been banned. This is so that Egyptologists can concentrate on mapping, documenting, protecting, and preserving sites that are already known. Hawass has also focused on locating, identifying, protecting, recording, and properly displaying the untold millions of objects already unearthed. In the past, numerous treasures—everything from mummies to scarabs—lay forgotten in basements and warehouses.

To Hawass, the ancient Egyptians are not just distant figures from the dim past, they are his *family*. His grand program of building and improving museums in Egypt is for the benefit of his fellow Egyptians, not just tourists. He dreams that his countrymen will feel the same close, family connection to their ancient ancestors that he does. He believes that reestablishing the family ties between ancient and modern Egyptians,

and a renewed national pride in his country's important cultural traditions, will help to save that culture for the future.

Hawass must continually balance tourism income with protecting the fragile monuments. He has issued strict regulations about who can go near the pyramids and other monuments, and what they can do. He has limited the numbers of people who can visit a particular tomb or site per day, and closed sites from time to time so they can "rest."

He has also pushed for much tougher anti-smuggling laws, and for harsher punishments for anyone caught vandalizing artifacts and sites, or stealing, smuggling, or dealing in stolen antiquities.

The tough mission he has chosen requires a huge amount of work, travel, diplomacy, knowledge, and self-confidence. Hawass intends to make his ancient ancestors proud. "I'm doing this because I'm the only one who *can* do it," he says.

has caused the coastlines to erode (wear away). Coastal land is vanishing, and without new deposits of sediment, parts of the Nile Delta are sinking. The amount of water that reaches the sea from the Nile is now less than 5 percent of the river's natural flow.

The Nile bloom—a rich soup of nutrients that used to flow into the Mediterranean Sea and feed marine life—is now gone. Egypt's formerly productive coastal sardine, anchovy, and shrimp fisheries have collapsed. The eastern Mediterranean basin is almost lifeless.

One effect seen immediately when the dam was completed was the loss of raw materials (Nile mud) for making mud-brick—a major local industry. Farmers started selling their rich topsoil to brick makers. This gains them some quick profits. But it also made their farmland less productive.



The Aswan High Dam, opened in 1965, has brought a mixture of good and bad. The Nile's annual flood can now be controlled, but many antiquities have been flooded and there have been serious ecological consequences, as well.

Without the yearly deposit of natural fertilizer from the inundation, Egyptian farmers turned to expensive chemical fertilizers. Every year, they must add more and more fertilizer to the farmland. More than 30 percent of the electricity the dam produces runs factories that produce artificial fertilizer.

Meanwhile, sediment is building up in Lake Nasser at the rate of 100 million tons per year. Scientists say that within 600 years, half the lake will be filled in. Within 1,000 years, the lake will be useless for water storage. (Given Egypt's very long history, 1,000 years is not a long time.) There is no known, realistic way to remove the sediment already trapped behind the dam.

Because of the constant supply of irrigation water to croplands, Egypt's underground water has risen dramatically. The rising water threatens to flood many ancient tombs, monuments, archaeological digs, and popular tourist destinations. Because the river no longer washes away excess salt from the soil, the land is in danger of becoming too salty. This further threatens both agriculture and ancient structures.

To counter this threat, the dam's distribution system includes a complex network of channels and drainage canals to remove excess salts and water. Huge electric pumps empty these into the Mediterranean Sea. These pumps use another 5 to 10 percent of the electricity generated by the dam.

A FOOD CRISIS COMING

Egypt's main export crop is cotton (which was not grown in ancient times). Rice, beans, fruits, wheat, vegetables, and corn are also grown.

Modern Egyptian agriculture is extremely efficient. Food production per acre is almost the highest in the world. Since the dam was built, nearly all available water is used to irrigate crops. All the possible farmland is already farmed. But Egypt still does not produce enough food to feed its ever-growing population. In fact, Egypt imports three-quarters of the wheat eaten in the country.

Egypt's population has tripled since the end of World War II (1945). It is expected to double again by the end of the 21st century. In the early days after the dam was built, Egypt could buy enough wheat with the money earned from exported cotton. But by the 1980s, Egypt had one of the highest rates of wheat import per person of any country in the world. Egypt can no longer grow enough cotton to buy the wheat it needs. So it sells oil. But Egypt has a growing demand at home for its own oil. And there is not so much oil left to sell.

Egypt's population has also grown so quickly that the supplies of services have not kept up. These basic services include clean water, waste disposal, electricity, and transportation. By the early 1980s, the demand for electricity already exceeded supply—even with the Aswan High Dam.

SAVING THE PAST

During the planning of the Aswan High Dam in the 1950s, it occurred to some observant persons that the dam was going to flood more than 300 miles of Nubia. This area included dozens of important ancient monuments and sites. Many had never been explored or studied. Some probably had not been discovered yet.

Even more troubling, the dam would drown the Great Temple of Ramesses II at Abu Simbel. It would also flood the smaller temple

Egypt Today

Official name: Arab

Republic of Egypt

Capital: Cairo

Population (2009 estimate): 83,083,000

Ages of population (2009 estimate):

0–14 years: 31.4%;

15–64 years: 63.8%;

65 years and over: 4.8%

Main agricultural

products: cotton, rice, corn, wheat, beans, fruits, vegetables; cattle, water buffalo, sheep, goats

Main industries:

textiles, food processing, tourism, chemicals, pharmaceuticals, hydrocarbons, construction, cement, metals, light manufacturing

Main exports: crude

oil and petroleum products, cotton, textiles, metal products, chemicals

Main imports: machinery and equipment, foodstuffs, chemicals, wood products, fuels

Main trade partners:

United States, China, Italy, Spain, Germany, Syria, Saudi Arabia, Russia, United Kingdom

Even in modern Egypt, the Nile remains the center of life, a main source of food, and important for irrigation.



Ramesses built for his favorite wife nearby, and the monuments and temples on the island of Philae.

The dam could not wait. UNESCO, a branch of the United Nations, appealed for international help. The two major tasks were to move Ramesses's Great Temple and the Philae monuments to higher ground.

Many other sites and monuments needed to be studied and possibly moved.

This was an extremely difficult task. No individual person, no single nation, could have rescued those monuments. Thousands of archaeologists from all over the world made a heroic effort. They combined all their talent, creativity, and labor into getting the impossible job done. Ancient forts were very quickly uncovered and studied. Several monuments were moved and rebuilt at an open-air museum near Aswan.

Temples and monuments that would have otherwise drowned beneath Lake Nasser were taken apart and donated to countries that participated in the rescue effort. Most of these have been rebuilt inside museums in Europe and the United States.

The international community responded to this crisis with a science-based, technologically advanced, well-planned, and perfectly-executed rescue effort. As a result, Ramesses's glorious Abu Simbel temples now stand eternal watch on higher ground near the lake, safe from its waters. Moving the four 60-foot tall statues of the Pharaoh was a complex technical challenge. Several plans were considered and rejected. In the end, the huge statues were cut apart, carried off in pieces, and put back together again at their new home. Ramesses the Great, mighty ruler of the world's first superpower, would have expected nothing less.

The officials who protect and study Egypt's ancient treasures face new archaeological crises every day. Each time a highway, parking lot,

Delicate Digging

Before a modern Egyptologist moves a spoonful of sand, he spends years planning his proposed dig and securing permission from the Supreme Council of Antiquities. Satellite and aerial photographs, ground-penetrating radar, sonar, robotic probes, and other remote sensing equipment can explore sites without disturbing them.

To minimize unnecessary digging, special drills send thin, transparent tubes into the ground, bringing back cores—long, narrow samples of the soil beneath. The cores reveal how many layers of soil are present and if any have been disturbed.

Work at an archaeological site proceeds with the greatest care and patience. A site is mapped, measured, and marked. Each layer is analyzed. Nothing is moved until it has been inspected, photographed, measured, documented, and recorded.

All artifacts—from gold statues to pottery fragments—are packed and stored carefully. Archaeologists are painfully aware that objects preserved underground for thousands of years often crumble to dust when exposed to air and moisture. Any traces of human remains are treated with supreme care, respect, and dignity.

or office building is built, ancient sites and artifacts are uncovered. Like the Aswan High Dam, these construction projects cannot wait. Archaeologists rush to do their work quickly and precisely. With underground water levels rising, preserving existing sites is now seen as the top priority. That means less resources go into studying newly discovered sites. And yet, Egyptologists agree, many wonderful things still lie sleeping beneath the sands.

TIME LINE

It is difficult to accurately give the dates of events before 664 B.C.E. Dates listed here are from “Three Kingdoms and Thirty-four Dynasties” by Dr. William J. Murnane, in David P. Silverman’s book *Ancient Egypt*.

ca. 3000 B.C.E.	Narmer unites the two kingdoms of Egypt, the Red Land and the White Land.
3000–2625 B.C.E.	Early Dynastic Period
ca. 2900 B.C.E.	The great city of Memphis is founded.
2625–2130 B.C.E.	Old Kingdom
ca. 2650 B.C.E.	Imhotep builds the Step Pyramid for King Djoser.
ca. 2530 B.C.E.	Khufu builds his Great Pyramid at Giza.
2130–1980 B.C.E.	First Intermediate Period
1980–1630 B.C.E.	Middle Kingdom
1630–1539 B.C.E.	Second Intermediate Period
1539–1075 B.C.E.	New Kingdom
1479–1425 B.C.E.	Tuthmosis III builds the great empire.
1353–1336 B.C.E.	In the Amarna Period, Amenhotep IV (Akhenaten) promotes a short-lived religious revolution.
1279–1213 B.C.E.	Ramesses II (“Ramesses the Great”) rules Egypt and a vast empire. His era is the highest point of Egypt’s imperial age.
1075–664 B.C.E.	Third Intermediate Period
664–332 B.C.E.	Late Period
343 B.C.E.	The reign of the last native Egyptian king, Nectanebo II, ends. The next time a native Egyptian will rule Egypt is 1952 C.E.
332 B.C.E.	Alexander the Great enters Egypt and is welcomed as a savior. He and other Macedonian Greeks after him rule Egypt. The Hellenistic (Greek) Period (332–323 B.C.E.) begins.
323–30 B.C.E.	Ptolemaic Period (Dynasty 32)
30 B.C.E.	Cleopatra VII commits suicide, ending the dynastic era. Egypt becomes a province of the Roman Empire.
394 C.E.	The last hieroglyphic inscription is carved in a temple at Philae.
641	Egypt is conquered by the Arabs and converts to Islam.

- 1922 After centuries of domination by various foreign powers, Egypt declares independence from Great Britain. It is ruled by a king and a parliament. Britain continues to have much influence.
- 1953 The Egyptians remove their king and declare themselves a republic. British influence is removed.

GLOSSARY

allies countries or groups that work together, especially during wartime

amulet an ornament or small piece of jewelry that is believed to protect the wearer from evil, danger, or disease

apprentice as a verb, agreeing to work for a skilled artisan for a low wage in order to learn his art; as a noun, the person who makes the agreement

archaeologist a scientist who studies ancient people by studying what they left behind

architect a person who designs buildings

architecture the way buildings are designed and built

artifacts items from daily life left behind by a group of people

artisan a skilled worker who makes things by hand

astronomy the study of the movements of stars and planets; people who study them are called astronomers

bureaucrat a professional official who works in the government no matter who is in charge

bureaucratic an organization that is managed by strictly following a fixed routine or procedure

canopic jar a special container in which the internal organs removed from a mummified person were placed

cataract a waterfall

chaos complete disorder and confusion

chariot a cart with two wheels pulled by horses

cult a small religious group that usually focuses on one person or god

delta a piece of land shaped like a triangle at the mouth of a river that is made by deposits of mud and sand

descendants relatives who trace their roots back to one person

drought a time when very little water is available because less rain falls than usual

dynasty a family that keeps control of a government over many generations, with rule often passed from a parent to a child

Egyptologist a person who studies the language, history, and civilization of ancient Egypt

faience glazed earthenware

famine a dangerous shortage of food

fertility the ability to easily grow (for plants) or have offspring (for animals and people)

floodplain the area that floods when a river overflows

gorge a narrow valley between mountains or cliffs

granary a place where grain is stored

harem the king's group of wives

heir the person named to inherit someone's wealth, social position, and titles

Hellenism Greek culture; the adjective is Hellenic

hereditary passed on from parents to their children

hieratic script a simplified way to write hieroglyphics, used by the scribes

hieroglyphics Egyptian picture-writing; one symbol is called a hieroglyph

imperial associated with an empire

inundation the annual flood of the Nile River (an inundation can be any flood)

irrigation bringing water to the fields to help crops grow

javelin a light spear that was thrown

ma'at the guiding principle of Egyptian society; it means balance, rightness, order, justice, truth, harmony, good behavior, and keeping things the way they have always been

mastaba a small, rectangular tomb with sloping sides and a flat roof

mercenary a foreign soldier hired to fight for another country

monarchy a government controlled by a powerful king

necropolis a city of the dead, where tombs were laid out like a well-planned town; living people might also be there to tend to the dead

niche a shallow, hollowed out place in the wall

nomad a person with no permanent home who travels from place to place, usually to find fresh pasture for their livestock

nomarch the leader of an administrative district in ancient Egypt

oasis a place in the desert where there is water; a variety of plants and animals gather near the water, and people often build oasis towns

oracle a person through whom a god is believed to speak

palette a shield-shaped stone

patron a protector or guardian

peasant a poor farmer

pharaoh an Egyptian king

plateau an area of high, flat land, like a table top

quarry a place, usually a deep pit, where blocks of stone are cut

rapids areas in a river where natural conditions make the water run very fast over rocky, dangerous areas

reign the length of time a particular ruler is in power

ritual a ceremony carried out according to religious laws and customs

sarcophagus an outer stone coffin

scribe someone whose job is to write down all important records

shrine a holy place

siege cutting off a town or fort from the outside so it cannot receive supplies and citizens cannot escape

silt fine particles of ash, clay, or other material that is carried by running water and eventually deposited down the river as sediment

successor a person who comes after another and inherits or continues in the offices they held

tactic an action or strategy that is carefully planned to achieve a specific result

tributary a small river or stream that flows into a bigger river, a lake, or an ocean

tribute riches paid to a foreign ruler to prevent an invasion or show obedience

viceroys a leader who rules on behalf of the king

vizier the king's top government official

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FURTHER RESOURCES

BOOKS

Biesty, Stephen, and Stewart Ross, *Egypt in Spectacular Cross-section* (Oxford, U.K.: Oxford University Press, 2007)

This book takes place in the era of Ramses II, around 1230 B.C.E. It follows a young boy's first trip down the Nile with his merchant father. He stops at 10 sites, each of which is elaborately drawn and explained in great detail. Short paragraphs explain the sites and offer more general information. But the highlight here is the busy, very detailed illustrations that show everything from how the Egyptians farmed their land after the annual Nile flood, how their houses were built, and what went on at a busy harbor. There are also unusual topics such as hippo hunts and Egyptian bathrooms.

Brier, Bob, and Hoyt Hobbs, *Daily Life of the Ancient Egyptians* (Westport, Conn.: Greenwood Press, 1999)

This vivid portrait of daily life in Egypt from 3000 to 30 B.C.E. was reconstructed using hieroglyphic inscriptions and ancient painted scenes. Explore the daily lives of ordinary people in ancient Egypt. There are detailed descriptions of the religion, government, ancient work and play, art, and learning. Read about what people ate, what their social lives were like, what they wore, what kinds of jobs they had, and much more. Simple steps explain how bread, beer, and wine were made long ago. (Actual recipes are included.)

Dineen, Jacqueline, *Lift the Lid on Mummies: Unravel the Mysteries of Egyptian Tombs and Make Your Own Mummy* (Philadelphia: Running Press, 1998)

Creepy fun in a mummy-shaped box. Young archaeologists get a booklet about mummies, a 10-inch plastic body, and four carved heads of the gods that protect the jars where the mummy's plastic innards go. In a hidden drawer are "linen" (gauze) wrappings, headdress, scarabs, lucky amulets, and a cardboard cat that can be mummified to keep the mummy company.

Filer, Joyce, *Mystery of the Egyptian Mummy* (New York: Oxford University Press, 2003)

Get to know Hornedjitef, a priest of Amun at the temple at Karnak. His mummy was preserved with a golden mask, jewelry, lucky amulets, and double coffins. Scholars and scientists at the British Museum used up-to-date scientific techniques, along with detailed archaeological detective work, to uncover a wealth of facts about Hornedjitef and his life and times. Full-color photographs (many with hieroglyphs) and X-ray and CAT scan images bring the text alive.

Hart, Avery, and Paul Mantell, *Pyramids: 50 Hands-On Activities to Experience Ancient Egypt* (Charlotte, Vt.: Williamson Publishing Company, 1997)

Readers can "Egyptianize" themselves by learning about what sorts of objects were a part of the life of people living in ancient Egypt. There is Egyptian-style tug-of-war, scarabs to make, and tips on creating personal magic spells. There is even a pull horse toy or a goddess doll. Other activities include making a sledge to haul "giant" stones, creating little clay or cardboard pyramids (and Lego-block step-pyramids), Egyptian dancing and costumes, and how to do Egyptian style artwork.

Henty, G. A., *The Cat of Bubastes: A Tale of Ancient Egypt* (Mineola, N.Y.: Dover Publications, 2002)

This novel is set in 1250 B.C.E., the time of Moses. A young Egyptian accidentally kills a sacred cat and must run away from an angry mob. The story includes many details about Egyptian religion and geography, the way the Nile was used for irrigation, and how the Egyptians were prepared for burial.

Jackson, Kevin and Jonathan Stamp, *Building the Great Pyramid* (Richmond Hill, Ontario: Firefly Books, 2003)

The authors document an actual recreation, using period tools and materials, of the techniques used in laying out and constructing the Great Pyramid. There are excellent descriptions of rituals involved in making mummies and in funerals. The authors take readers on a brief tour of the history of Egyptology, and bring them up to date with a clear-headed discussion of 19th-century as well as modern new-age “pyramidologists” (and “pyramidiotis”).

Macaulay, David, *Pyramid* (Boston: Houghton Mifflin/Walter Lorraine Books, 1982)

This book provides a wonderful introduction to the Great Pyramid and includes marvelous illustrations.

Payne, Elizabeth. *The Pharaohs of Ancient Egypt* (New York: Random House Books for Young Readers, 1981)

This book explains how archaeologists have pieced together their discoveries to slowly reveal the history of Egypt’s people, its pharaohs, and its golden days as a powerful empire.

Tyledesley, Joyce, *Tales from Ancient Egypt*, Revised edition, (Bolton, UK: Rutherford Press, 2004)

Tyledesley retells 16 ancient stories that originally appeared on papyrus and stone. There are tales of gods, men, and adventures, true stories, plus a religious hymn. An informative commentary tells the story behind each story.

Vercoutter, Jean, *The Search for Ancient Egypt* (New York: Harry N. Abrams, Publishers, 1992)

This handbook is a fascinating tour of the rediscovery of ancient Egypt and how the hieroglyphics were decoded in the 19th and early

20th centuries. Selections from original source documents and actual reports, drawings, and paintings by early explorers bring the history of Egyptian archaeology, with all its glory, disasters, mistakes, and occasionally horrifying incidents, vividly alive.

WEB SITES

Akhet Egyptology: The Horizon to the Past

www.akhet.co.uk

This is a great site for basic information for novice Egyptologists, with lots of images. It includes the “clickable mummy”—click on different parts of the mummy to view interesting facts and information about the mummification process.

Ancient Egypt

www.ancientegypt.co.uk

This well-designed resource comes from The British Museum. It has time lines, explorations, history, geography—and a clever opening animation. A pop-up glossary explains words that may be unfamiliar. There are many great photos.

The Ancient Egyptian Literature Site

www.geocities.com/per_medjat/literature.html

Egyptologist Zoe Jackson offers her own translations of ancient Egyptian works that are not commonly found in general literature collections, or are available only in very old publications. The site concentrates on long inscriptions taken from tomb, buildings, and statues.

Animal Mummies

www.animalmummies.com

This is the official site of the Animal Mummy Project at the Cairo Museum. It explains how they study animal mummies, what they hope to learn from them, and how these mummies are being preserved. There is also information about the role of animals in ancient Egypt.

Discovering Egypt

www.discoveringegypt.com

Egyptologist and author Mark Millmore has designed this site especially for kids. This is a great general place to start an exploration of ancient

Egypt. Learn about kings and queens, hieroglyphs, pyramids, and temples, get an ancient Egypt screen saver, or send a hieroglyph e-card.

Egypt and the Ancient Near East: Web Resources for Young People and Teachers

http://oi.uchicago.edu/OI/DEPT/RA/ABZU/YOUTH_RESOURCES.HTML

This Web site, produced by the Oriental Institute of the University of Chicago, is an excellent collection of links and information about Egypt and other ancient cultures of the Middle East. It includes many maps.

The Egypt Archive

www.egyptarchive.co.uk

The site has a fascinating collection of ancient Egyptian images, including photos, maps, engravings from rare books, drawings, and historical documents. There are even old photos taken by early Egyptologists.

The Griffith Institute

www.ashmolean.org/Griffith.html

The Griffith Institute is a part of the University of Oxford in Britain. It specializes in Egyptology and Ancient Near Eastern studies. It is the largest Egyptological archive in the world. Users can consult many of its holdings online, including all the records made by Howard Carter and his team during the excavation of the tomb of Tutankhamun. There is a special section for young people.

Guardian's Egypt

www.guardians.net/egypt

This constantly-updated site includes a "cyber journey to Egypt." Go inside the pyramids. Learn about King Tut. View ancient Egyptian art from museums all around the world. Listen to ancient Egyptian music. Join an ongoing discussion group. Practice reading hieroglyphics. There is also a special section for young people.

An Introduction to the History and Culture of Pharaonic Egypt

www.reshafim.org.il/ad/egypt/index.html

This is an excellent introduction to ancient Egypt. It uses works of art and ancient writings

to explain the history and culture of Egypt. There is a particularly rich collection of translated original documents: fables, legal disputes, prayers and hymns, contracts, laundry lists, love letters, and much more.

Odyssey Online: Egypt

www.carlos.emory.edu/ODYSSEY/EGYPT/homepg.html

This site is put together by the Michael C. Carlos Museum of Emory University and is especially for young people. It offers information on people, mythology, daily life, death and burial, writing, and archaeology.

The Plateau

www.guardians.net/hawass/

The official Web site of Dr. Zahi Hawass, secretary general of Egypt's Supreme Council of Antiquities and director of the Giza Pyramids archaeological dig. This site is accurate and always up to date. Learn about the newest discoveries here—complete with photos.

The Pyramid Texts Online

www.pyramidtextsonline.com/plan.html

Explore the pyramid of Fifth Dynasty King Unas in many photographs. All the inscriptions on the walls are translated into English here, as well.

Theban Mapping Project

www.thebanmappingproject.com

The official site of the Theban Mapping Project (TMP), based at the American University in Cairo. The TMP is an effort to prepare a complete archaeological database of Thebes, site of thousands of important tombs and temples. There are drawings of the sites, photos and models, plus essays about ancient Egypt.

The Tomb of Senneferi

www.fitzmuseum.cam.ac.uk/tt99/

This site documents archaeologist Nigel Strudwick's ongoing dig at the tomb of Senneferi (Theban Tomb 99). His "dig diaries" are a fascinating look at the day-to-day work of archaeology. There are many, many photos of what he has uncovered, videos of the

tomb, and information about Senneferi and his family.

Write Like an Egyptian

www.upennmuseum.com/hieroglyphsreal.cgi/

The University of Pennsylvania Museum of Archaeology and Anthropology's hieroglyphic

translator. Type in a name and see how ancient Egyptians would write it. The site includes information on how hieroglyphics are pronounced. There is also a section on culture in ancient Egypt and a catalog of gods and goddesses.

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